AMERICAN GAS ASSOCIATION MONTHLY

A. G. A. President Sees Improvement During 1932

A. G. A. Plan To Improve Customer Relations

New Wrinkle In Direct Mail Advertising

Resuscitation, Drowning, Electrocution and Asphyxia

CECIL K. DRINKER, M.D.

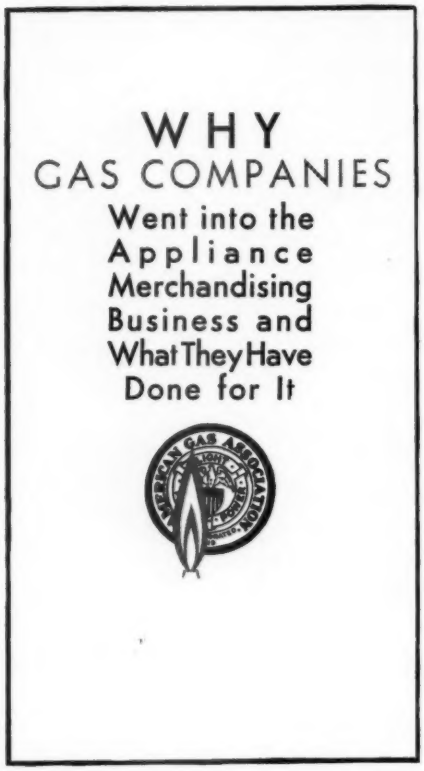
Use of Leak Clamps In Repairing Cast Iron Pipe Joints

F. R. WRIGHT

History of New Jersey Gas Association

January 1932

Keep Your Dealers Informed with this Booklet!



Here's a pamphlet designed to meet the need for a comprehensive and authentic discussion of that all-important question —

Why Did Gas Companies Enter the Appliance Merchandising Business, and What Have They Done for It?

Distribution of this booklet by A. G. A. Member Companies is certain to result in a clearer conception on the part of dealers as to why the gas industry's activities in appliance merchandising and promotion have been and are important and essential in developing the industry and improving service to the public.

The booklet, with the imprint of your company, is designed for distribution to dealers. Copies are available at Association Headquarters, at the following prices:

First 1000 or less at the rate of $50 a thousand.

Next 1000 or less at the rate of $40 a thousand.

All over 2000 at the rate of $30 a thousand.

Imprinting done at nominal cost on orders of not less than 250 copies.

Commercial Section

AMERICAN GAS ASSOCIATION

420 Lexington Avenue
New York, N. Y.

AMERICAN GAS ASSOCIATION MONTHLY

VOLUME XIV | JANUARY, 1932 | NUMBER 1

CONTENTS

PAGE

Our Own Who's Who—Franklin S. Wade 2

A. G. A. President Sees Improvement During 1932 3

A. G. A. Plan to Improve Customer Relations 4

Use of Leak Clamps in Repairing Cast Iron Pipe Joints 5
F. R. WRIGHT

New Wrinkle in Direct Mail Advertising 9

Committees—Why? When? Where? How? 10

Resuscitation, Drowning, Electrocution and Asphyxia 12
CECIL K. DRINKER, M.D.

New Gas Plant in Basel Is Completed 17

Gas for House Heating Shows Marked Gain 19

More Effective Handling of Heat in Gas Fired Kilns 20
J. B. NEALEY

Hartford Gas Company Captures First Place in Advertising Contest 23

A. G. A. Affiliated Associations—How They Started and How They Have Grown—New Jersey Gas Association 24
HERBERT E. CLIFF

Affiliated Association Activities 26

Convention Calendar 26

Advertising for Future Sales 35
PAUL RENSHAW

Monthly Summary of Gas Company Statistics 42

The Association does not hold itself responsible for statements and opinions contained in papers and discussions appearing herein.

Published Monthly by the

AMERICAN GAS ASSOCIATION

Publication Office, American Building, Brattleboro, Vt.
Editorial Offices, 420 Lexington Ave., New York, N. Y.

Entered as Second Class Matter at the Post Office at Brattleboro, Vermont, February 10th, 1922, under the Act of March 3, 1879.

Subscription Rate . . . . . $3.00 a Year

OUR OWN WHO'S WHO

Franklin S. Wade

LXXIX

FRANKLIN S. WADE, for many years active in the affairs of the American Gas Association, and now serving as a member of its Executive Board, is president of the Southern Counties Gas Company, Los Angeles, Calif. He entered the gas business in 1905, though he was not at that time through college. He was first employed by the Los Angeles Gas & Electric Corp., as a chemist, and in that capacity did a considerable amount of pioneer work which resulted in a more scientific control of the oil gas process than practiced in its earlier days. In working for this company, Mr. Wade was able to complete the work required for graduation at the University of Southern California, where he received his degree in 1908. After seven years with the Los Angeles Gas & Electric Corporation, he joined Ferdinand R. Bain, then president of the Southern Counties Gas Company, as general superintendent of the original properties, which formed a nucleus for the present extensive suburban territory occupied by the company. When he joined the Southern Counties Gas Company in 1912, it had about 6,000 consumers. This company now serves 142,000 consumers, exclusive of the metropolitan area of Los Angeles. The Southern Counties Gas Company was a pioneer in the utilization of casinghead gas from the oil wells of Southern California. The first natural gas service of this company was undertaken in Orange County in 1914; straight natural gas now is served exclusively through this territory. Mr. Wade is a native of Kansas City, Mo., and was taken to California by his family at the age of three years. Besides his work for the American Gas Association, he also has been active in the affairs of the Pacific Coast Gas Association, with which he became affiliated in 1910. He served as president of the Pacific Coast Association in 1923.

AMERICAN GAS ASSOCIATION MONTHLY

Allyn B. Tunis, Editor

Advisory Committee

Frank LeRoy Blanchard
Edward F. McKay
E. Frank Gardiner
Howard F. Weeks
Charles E. Wetzel

Volume XIV | January, 1932 | Number 1

A. G. A. President Sees Improvement During 1932

WHILE conditions during the past two years have presented difficult operating and management problems to public utilities, R. W. Gallagher, president of the American Gas Association, views the outlook for the new year with optimism. "Business conditions cannot help but improve during 1932," he asserted. "There is apparent, and has been for some time, a growing demand for necessary replacements, both of household equipment and otherwise, and this demand, together with the growing development of central house heating, air-conditioning, gas refrigeration and other distinctly modern uses for gas, is, I think, slowly crystallizing into action."

Mr. Gallagher also believes there now exists a better mental feeling in the form of general acceptance of changed conditions. "These things may very well be a means of lightening considerably our present business outlook, and I believe that they will be. We certainly look forward to a good year."

Mr. Gallagher's opinion is supported by statistics of the gas business of this country for 1931. They point to a continued growth and expansion

R. W. Gallagher

particularly in the number of domestic customers served, in the number of communities served, accompanied by the stability which has always been an outstanding characteristic of the industry. Aided by sound financing; intelligent research, modern sales methods, improved public understanding, the gas companies have enlarged and improved their service constantly. This industry is entering 1932 with a confidence based not only on a long-continued service, but also because of the quickening public appreciation of that service which has been created by scientific planning and a high degree of enterprising salesmanship.

Revenues from manufactured gas in 1931 aggregated about $441,900,000, according to preliminary estimates of the Association's Statistical Department. This represented a decrease of 2.5 per cent from the 1930 figure.

While total sales of manufactured gas to consumers also registered a decline of about 2.5 per cent, an outstanding exception to the general trend was the marked increase shown in the use of gas for house heating purposes. In 1930 sales of manufactured gas for house heating purposes were 18,600,000,000 cu.ft., but during 1931 this figure rose to 22,200,000,000 cu.ft., an increase of nearly 20 per cent in this class of business.

Owing largely to activity in the construction of new pipe lines and the extension of distribution systems for natural gas which characterized most of 1931, the decline in natural gas sales for domestic and commercial purposes was relatively small, amounting to less than 2 per cent. In keeping with general economic conditions, however, natural gas sales for industrial purposes registered a decline of about 15 per cent. In addition to this decline in ordinary industrial sales, the amount of natural gas used for

(Continued on page 41)

A. G. A. Plan To Improve Customer Relations

THE American Gas Association has announced the publication of a booklet incorporating an extensive follow-up or continuation plan of training for the public contact employees of companies enrolled in its Course in Employee-Customer Relations.

To companies with five or more employees taking the course, the booklet will be issued free of charge, one copy to each discussion group. For all others the price will be $1 a copy, which represents the cost of production. Total enrollment in the course on December 10 was 7,300, made up of meter readers, adjusters, collectors, repairmen, cashiers, information clerks and others whose positions bring them into personal contact with customers.

The new booklet has been produced in response to an insistent demand for some means of further developing and consolidating the good results already achieved with this course, and in this manner keep the improvement of public contacts from becoming a mere spasmodic effort. The follow-up plan provides material sufficient for continuing the group conference method of training for at least a year after the employees have completed the six months' initial course and have been awarded their certificates.

With the publication of this new booklet, the Association makes available to member companies an employee training plan so comprehensive in its treatment and so specific in its application to individual contact problems and situations that it can be used as the basis of a sustained educational effort in companies of all sizes. As now constituted, the Association's plan for the training of public contact employees consists of the highly successful Course in Employee-Customer Relations and a supplementary and continuing program of training designed to keep alive the group conference method of discussion and its effective use as a stimulant to better employee performance on the job.

The first part of the Association's well-rounded and flexible training plan—the Course—is published in six units. These are issued to enrolled employees at the rate of one a month. A seventh unit is provided for the guidance of the leaders of discussion groups and gives suggestions for the successful handling of these conferences which the leaders conduct. At the close of each unit studied by the employees are review question sheets which the employees fill in and send to the producers of the course for correction and rating. These are returned to the senders after being marked.

The group conferences are not only an important part of the course but they are essential to the most successful use of the course. The principles of customer contact, developed and illustrated in the text, are discussed in the group meetings and typical contact experiences are volunteered by the employees themselves. A series of well-conducted group discussions can be, and often are, the most valuable training period in the business life of the group members. As a matter of fact, companies using the course have been so impressed with the effectiveness of the group conference set-up that they have turned to Association Headquarters with requests for ways and means of continuing it at the conclusion of the initial six months' training period. The result is the new booklet describing the continuation program.

In general, the plans outlined in the booklet aim to furnish definite guidance in a continuing program of contact training. The greatest difficulty met in carrying out most plans of this nature has been the lack of material, both in vagueness of general outlines provided, and in indefiniteness as to procedure. None but tried and tested methods and devices are featured in the new booklet, which sets forth specific procedures for the further training of employees who have previously absorbed the fundamentals of the initial course and who are eager to carry on.

In the new booklet will be found twelve typical monthly programs for group conference use. These are not based on programs of an experimental nature but are taken from the experience of a certain company which is securing excellent results from them. There are, also, fifty-three actual and realistic contact cases presented in narrative form. All of these have originated from contacts between employees and customers and typify the problems facing the contact personnel of the industry.

For the guidance of group leaders, there are five excerpts from conference meetings showing devices used for stimulating discussions. Also included for employee discussion are twelve service commendations or cases, based on actual experience, in which employees have performed commendable acts of courtesy in circumstances calling for the exercise of patience, tact and other qualities making for good performance. Supplementing these are stories presented in narrative form, of twelve contact experiences between gas company employees and representatives of other lines of business. These so-called "outside contact cases" provide material for some of the most profitable conference discussions. Such material has the added advantage of suggesting to the employee the value of comparing his own contact procedures with those used in some of our best known commercial establishments.

The new booklet gives practical and workable instructions for leaders, recommends devices for securing

(Continued on page 41)

Use of Leak Clamps in Repairing Cast Iron Pipe Joints

By F. R. WRIGHT
Publications Editor, A. G. A. Testing Laboratory

THE underground transmission and distribution of gas involves many problems not only of a technical and engineering nature but of an economic one as well. These problems must be met and solved since this method has proven to be the only feasible one so far for transporting our product from its source of production to the point of consumption. The proper maintenance of a distribution system necessitates a large amount of repair work on, or replacements of, broken or defective mains and joints. Changes in the nature of the gas supply, increased line pressures, and greater external stresses, brought about by modern traffic conditions, combine to create added difficulties for the distribution engineer. The natural tendency of all these developments has been to increase not only the amount of repairs and replacements necessary but also line losses. As a consequence the gas industry has taken active steps to determine ways and means by which better pipe joints may be constructed and defective joints more effectively repaired.

One of the principal features of the pipe joint research investigation carried out by the A. G. A. Testing Laboratory during the past two and one-half years has been a study of the most effective means of repairing leaking bell and spigot joints.

Prior to undertaking this investigation a preliminary survey was made to determine by means of questionnaires, the consensus of opinion of the gas distribution engineers throughout the country, on the most satisfactory methods found in practice for repairing leaking joints. The results of this survey showed three commonly accepted methods, namely: (1) cutting out the old material and remaking the joint; (2) recaulking of the joint, and (3) the application of leak clamps. The third method appeared to be the one most generally followed in practice. The results of the investigation of this method of repair will form the basis of this discussion.

Exhaustive tests were made to determine the effectiveness of the different designs of leak clamps applied to various sizes of cast-iron bell and spigot joints. This research also had for its aim the collection of basic data on the design of leak clamps and their method of application, together with definite remedial measures for the elimination of any defects which might be disclosed. Leak clamps were applied to both new and old joints. The tests, although designed to reproduce as nearly as possible service conditions, were purposely much more severe than those normally encountered in practice.

The study of leak clamps resolved itself into three rather distinct series of tests. The first series covered clamps in the 4- and 6-inch sizes, the second those in the 16-inch size, and the third, which is now under way, those in the 36-inch size.

In discussing this subject a brief outline of the methods of test employed in each series will be given, followed by the results and recommendations as to the use of leak clamps as disclosed by the results thus far secured.

A test procedure was devised at the start of the investigation on the repair of old joints, to determine the amount of bending or deflection to which the old joints could be subjected before leakage started. The purpose of these tests was to reproduce results such as occur under ordinary service conditions due to ground settlement, cave-ins, etc., which place lateral stress on pipe joints, causing leakage. Tests using leak clamps were first made on old joints in the smaller sizes. Leak clamps were applied, the ends of the pipe closed with line caps, and a preliminary test made for leakage under 50 lbs. static air pressure. The test then consisted of mounting the specimens, which were about six feet in length, on two knife-edge supports placed five feet apart with the joint at the center. Loading was applied to the side of the bell by means of a steel block shaped to conform to the curvature of the bell. This was done in a 60,000 lbs. Rieble testing machine. Air pressure of 10 lbs. was maintained on the joint. The load and deflection was noted at which leakage first occurred, the test being continued until a maximum deflection of one-half inch was reached whether or not leakage developed. This test was repeated four times, the joint being rotated 180° between each set of loadings. The first tests were made on joints which had been previously deflected to leakage and were not repaired before installing the clamps. These were mainly lead joints. In some cases the joints were noticeably broken. Both plain rubber and duck and rubber gaskets of different designs were used both with and without the application of gasket cement.

Various types and designs of clamps were tested according to the procedure outlined. Among these were clamps designed for higher pressures. In view of the generally satisfactory results secured at the initial test pressures of 10 lbs., this was finally raised to 25 lbs. and all the later tests made at this pressure. In spite of the more severe conditions the results were generally satisfactory.

In view of the promising test performances obtained by the application of leak clamps to joints of small size, it was decided to extend the investigation to cover the use of leak clamps in joints of larger size. Accordingly, an extensive series of tests were made using several styles of 16-inch clamps applied under different conditions.

For the conduct of these tests, a special specimen was prepared using a

Method of mounting small joint in testing machine for lateral deflection test

bell and spigot piece, each six feet in length with the ends closed by caps bolted to the pipe for additional strength. The joint was made up using yarn with either cast lead or lead wool caulked by an air hammer, carefully faced off to receive the clamp. After the clamp was applied the tightness of each joint was first determined by an internal air pressure of 50 lbs. per square inch.

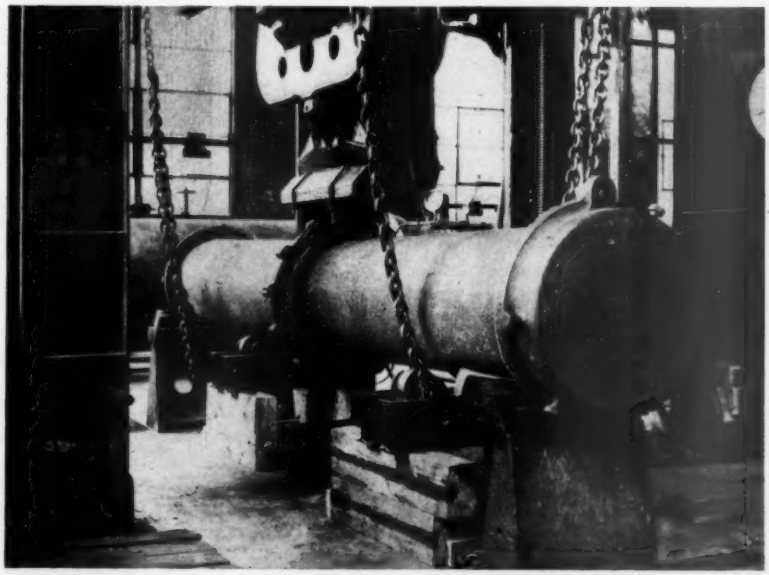
The sample joint was mounted in a testing machine on knife-edge supports 10 feet apart with the joint located midway between them. The load was applied by means of a bridge which spanned the clamped joint and applied the load eight inches each side of the joint. Loading was applied until one inch deflection below the center line took place. The load was then released, the joint rotated 180° and a load was again applied until the joint was deflected one inch below the center line in the opposite direction. This operation was repeated twice, making a total of four deflections, the deflection in each case being measured by a deflectometer.

A pressure of 25 lbs. per square inch was maintained on the joint during the deflection tests. It was at first planned to reduce the test pressure as leakage took place, but it was found that when a leak once occurred, leakage continued to take place even though the pressure was reduced. Consequently, the full pressure was maintained during the course of the test.

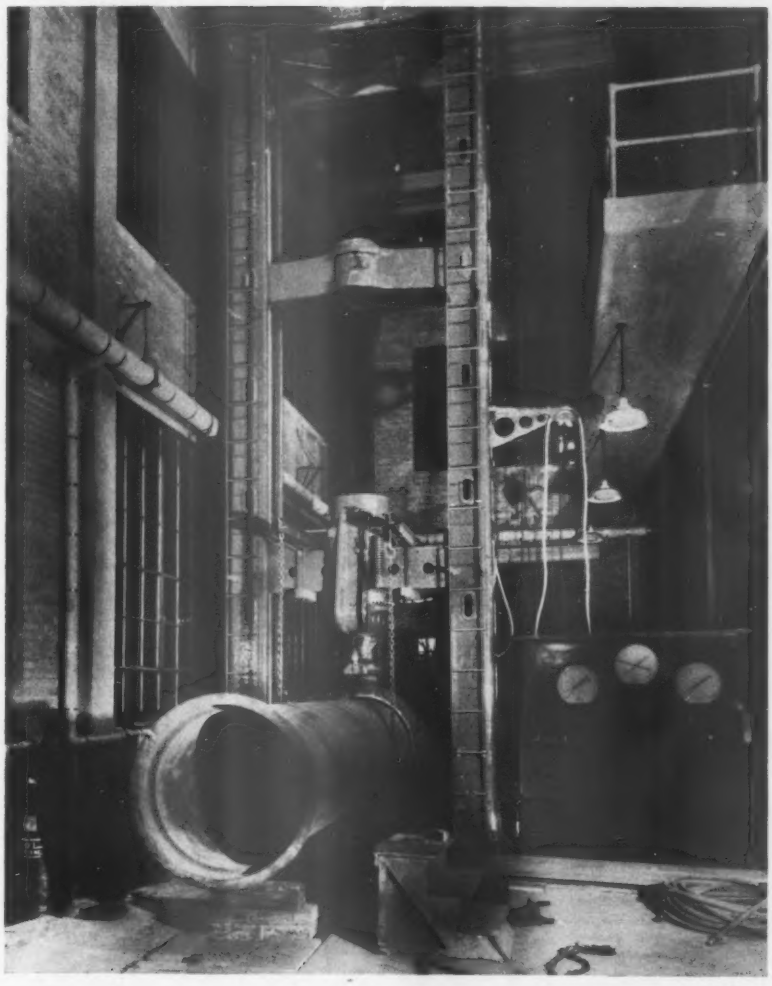
The results of previous tests on four- and six-inch joints showed that the preparation of the joint to receive the clamp had considerable bearing on the effectiveness of leak clamp repair. Consequently, in preparing the joint for clamping, considerable attention was paid to finishing off the jointing material smoothly and as near as possible flush with the face of the bell. Starting with a joint prepared as outlined previously, it was necessary to recaulk it before applying a clamp the second time. After this had been done a few times it became necessary to reface the joint since the lead had been recessed too far. This plan of preparation of the joint was followed throughout the series of tests which were made. Several clamps of various designs were tested using both plain rubber and duck-faced gaskets, with and without gasket compound. In general, the results were similar to those secured with the smaller joints and were distinctly satisfactory.

After a full consideration of the information obtained from the tests described on joints up to 16 inches in size, the Pipe Joint Committee felt it was desirable to secure further information on the performance of leak clamps as applied to much larger pipe. It was accordingly decided to conduct additional tests on the 36-inch size. The necessary specimen has been prepared and test work is now under way. It has been found necessary in order to successfully handle the tests to make use of a testing machine of 600,000 lbs. capacity, recently installed at Case School of Applied Science in Cleveland.

Cast lead joints are made up in the ordinary way for the reception of the 36-inch leak clamps and tests are ap-



View of 16 in. specimen in machine preparatory to application of load



General View of 600,000 lb. testing machine

plied similar to those formerly made on 16-inch clamped joints. Due to the large size of the specimens, however, it was necessary to make special provisions to secure a pressure chamber around the joint. This was accomplished by the use of two discs placed about one foot back from the center of the joint and made up against a gasket seated on a stop bolted to the pipe. This method has been found satisfactory for the tests made thus far. The specimens are placed on supports 15 feet apart with the clamped joint located midway between them. The load is applied in a manner similar to the method used for the 16-inch joints. A pressure of 25 lbs. per square inch is maintained on the joint during the deflection tests. The method of test used for 16-inch clamps is followed except that a maximum deflection below the center line of one and one-half inches is effected in each case.

There are a number of physical aspects to the testing of 36-inch joints that were not so noticeable in the smaller size specimens tested. A 36-inch specimen weighs over four tons, thus requiring the use of large overhead cranes for handling. The internal pressure is also an important factor. Since the pressure effective on the discs forming the ends of the pressure chamber increases in direct proportion to the square of the diameter, there is a much greater tendency to force the large size joints apart during the lateral deflection test than occurs with the smaller size joints. In the case of the 36-inch joint it was found that the internal pressure tended to separate the joint appreciably on each successive deflection.

Although the investigation of 36-inch leak clamps is far from being completed at present, it is anticipated that many of the conclusions given above will apply to clamps of this size.

The general design of a few leak clamps investigated may be seen from the accompanying drawings, which show them mounted in position. These are only representative types of a number found to be satisfactory.

In summarizing the situation regarding the use of the leak clamps as brought out by the investigations thus far concluded the writer can do no better than quote from the 1931 Report of the Sub-Committee on Pipe Joints, which was presented at the last A. G. A. Convention.

"It is felt that leak clamps offer the most practical and advisable means for the permanent repair of leaking cast-iron bell and spigot joints up to and including 16 in. in size. For the most successful performance their design should provide for the following:

"1. Ample cross-sectional area of the gasket. The width should be substantially greater than the width of the joint space.

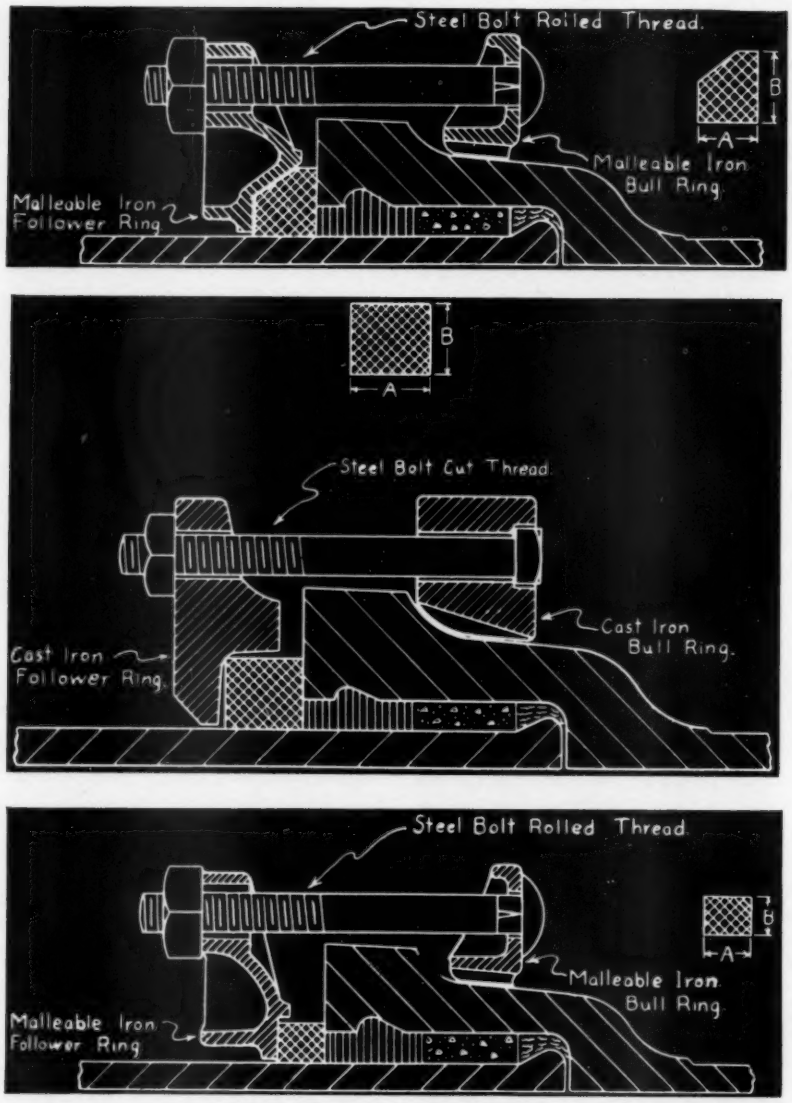
"2. The segments of either of the clamp rings should be of such design as to afford ample rigidity and also be as few in number as possible. Means should be furnished to provide a secure and substantial method of locking the individual segments to form substantially a solid ring when finally assembled. Such construction is essential to prevent excessive distortion of the clamp ring which would result in a release of compression on the gasket. This is of particular importance in larger size clamps.

"3. It is important that careful consideration be given to the dimensions of the bell to which a clamp is to be applied. Clamps are available to fit the majority of bells usually encountered in service. Care should be taken that a clamp of the proper dimensions is selected.

"In repairing a joint to receive a clamp, care should be taken that the following conditions are observed:

"1. The surfaces of the joint and the adjacent metal should be thoroughly cleaned.

"2. When lead joints are used recaulking may be resorted to in order to face up the joint surface as nearly as possible flush with the bell. If the lead is recessed more than ⅛ in. after recaulking, it is advisable to cut out the lead to a depth of at least ½ in. Either cast lead or lead wool, properly caulked, may then be used to reface the joint flush with the bell face. If so desired, the joint may be refaced with cement after cutting out not more than ½ in. of the top lead, using the method given below for cement joints.



General design of few leak clamps

"3. For cement joints the top cement may be cut out to a depth of not more than ½ in. and the joint refaced with neat cement. Care must be taken to finish off the cement smoothly. The clamp may be applied immediately to the green cement.

"4. A thin coat of gasket compound or similar lubricant should be applied to the area to be covered by the gasket and also to the joint of the gasket. Where a joint has been refaced with cement the use of the compound is unnecessary except on the joint of the gasket.

"Generally speaking it is considered that rubber gaskets are to be preferred to those of the duck tipped type."

It is felt that these series of investigations have resulted in improvement in the design of leak clamps and gaskets and has stimulated interest in the development of more effective and satisfactory clamps. Competition has been stimulated which should also prove beneficial to the industry. At least two large manufacturing concerns are now making leak clamps which were not formerly interested in this field.

The data secured in this investigation should serve to definitely settle a more or less controversial question and form the basis on which very substantial savings can be effected not only in repair costs but in gas losses, which should react to the benefit of the entire gas industry.

Samuel Insull, Jr., Elected Vice-Chairman

Samuel Insull, Jr.

AT a meeting of the board of directors of the Midland United Company held December 15, Samuel Insull, Jr., resigned as president and was elected vice-chairman of the company.

Robert M. Feustel, who had been executive vice-president of the company, was elected president. William A. Sauer who had been vice-president and general manager, was elected executive vice-president.

The same changes in officers were made in the Midland Utilities Company at a meeting of its board of directors.

Mr. Feustel was elected a director of the Midland United Company, succeeding Frank E. Kruesi. He was already a member of the board of Midland Utilities Company.

Mr. Feustel is an officer of operating companies in the Midland United Company group and for the last three years has been the chief operating head of the subsidiaries as well as executive vice-president of the Midland United.

New Posters Attract Wide Interest

THE program of outdoor advertising, designed to be of direct benefit to plumbers and dealers selling modern gas appliances, which was inaugurated by the Consolidated Gas Company of New York, New York, N. Y., has attracted wide attention and many inquiries have been directed to the Company's Bureau of Advertising and Display. Henry Obermeyer, assistant to vice-president, said that he had received many calls for information regarding the cost of the 24-sheet billboards, as well as the miniature reproductions of them.

The 24-sheet posters can be obtained from the Consolidated Company at $3 each in any quantity desired, if orders are received before they are ready to print. After the first printing is out, the price will be as follows:

Quantity 24,	$8.75 each
Quantity 50,	5.00 each
Quantity 100 or more,	3.00 each

Small reproductions of these posters are also made for window display and showroom use, and are effective means of advertising in the stores of plumbers and other appliance dealers. If orders are received before being printed, these can be obtained at a price of 85 cents each, in any quantity desired. If ordered after the first printing is off the press, the price will be for 25—$1.65 each, 50—$1.30 each, and for 100—$1.00 each.

New Wrinkle In Direct Mail Advertising

THE Jersey Central Power and Light Company has a direct mail campaign in progress that has several features out of the ordinary. They found an artist who had never produced advertising matter, but had gotten out a book for children that was already a good seller consisting entirely of short rhymes and illustrations of an unusual style. There was one subject to the page and each page explained to the child how some standard article of commerce is produced. How they make coal, how wheat is grown, milled and made into bread, were all shown in from thirty to fifty words of text in jingle form with illustrations that were decidedly cunning and which made the whole matter simple and plain to any mind. Moreover, they were entertaining to adult minds.

This is what the Jersey Central campaign was based on. They said we will show our customers how we make gas, how we make electric light, what every electrical and gas appliance will do in the home, and we will show only one subject a month in rhymes so bright and short and pictures so engaging, that the whole story will be told at a glance, almost without any attention at all. This we will do on the center spread of the bill inclosure and on the back page, with illustration of the same style. We will advertise whatever appliance we are pushing that month and on the front page we will run a cash prize contest to get the mothers and children in the homes to writing rhymes about what each appliance we are advertising will do. To write they will have to study the subject and understand what it does and what its benefits are, and they will have fun writing the jingles, and all that attention will be mighty good advertising for us.

It has worked out this way. Many

hundreds of letters are received monthly, a few containing rhymes of real merit. The award of prizes is announced in an advertisement in sixty odd newspapers on the third Thursday of every month. This copy gives the names and addresses of the ten persons who win the gas prizes and of the ten who win the electric prizes, and prints the first prize-winning poem of each division. The advertising illustration is a reduction of that which appeared in the particular circular which the winning rhyme was written to fit. As these are all on the subject of some appliance the advertisement itself besides being a news announcement of local interest, constitutes a strong advertisement of that particular appliance made stronger by containing a lot of local names and addresses. Moreover, the papers all carry news stories giving the names of the winners and the winning compositions. The option is given each winner of receiving the prize in cash or a credit of double the amount instead, applying on the purchase of the appliance advertised.

John G. Pew Retires from Active Service

ANNOUNCEMENT has been made of the retirement of John G. Pew from active service as vice-president of the Columbia Gas & Electric Corporation, effective December 1, 1931. Mr. Pew has been vice-president of Columbia Gas & Electric Corporation since 1926.

John G. Pew

Mr. Pew's career began in 1886 with The Peoples Gas Company, Pittsburgh, Pennsylvania, and his position was that of pipefitter's helper. From that humble beginning he advanced gradually but surely until he reached the highest office within the gift of the company, that of president, which post he retained until July, 1918. During his business career Mr. Pew also served as president of the Sun Ship Building & Dry Dock Company, Chester, Pennsylvania, which office he still retains, and as vice-president of the Sun Oil Company.

Mr. Pew is widely known and admired throughout the natural gas and oil industries, in which he has proven his great capabilities, because of his great character and his unfailing courtesy and good cheer toward everyone with whom he has come in contact.

Mr. Pew has been actively identified with the American Gas Association, having been elected a member of the Executive Committee of the Natural Gas Department at a meeting of the Department's Managing Committee held at Atlantic City, June 1, 1928, which office he still retains.

Committees—

Why? When? Where? How?

Herewith is presented a reprint of a circular furnished to members of the Pacific Coast Gas Association serving on committees, and it is published because the A. G. A. MONTHLY believes it to be one of the best pieces of writing on the subject. Those who have served, are serving, or expect to serve on committees, will find this article of unusual interest. The MONTHLY is indebted to the Pacific Coast Gas Association for permission to reprint its circular.

MOST of the constructive work done by the Pacific Coast Gas Association is done by its committees. As a matter of fact the work and play of the world is governed by committees. The President's Cabinet is an executive committee. Congress is a committee of the people, and each branch of Congress is in turn ruled by committees. Corporations are managed by committees called Boards of Directors, and President Hoover in creating his various fact-finding commissions has been appointing committees of experts to aid in his decisions. Committees are an essential tool in the creative work of any large group. In reality it is an honor to be appointed to a committee because it implies a recognition of one's knowledge and ability.

A question frequently asked is, "What do I get out of my investment in the Association?" The answer that, "It gives you an opportunity to work on committees" often meets with considerable amusement, but nevertheless it can be proven that committee work within one's capacity can be made a most profitable endeavor. The thought put into writing letters and reports consolidates ideas; one receives at first-hand the ideas of others, and if the committee functions with any degree of success, considerable prestige accrues to it, with consequent favorable personal advertising to its chairman and members. A passive Association member gets a great deal from his membership if he will take it, but the man who digs in and takes part in the creative work of his industry reaps many fold for this extra effort.

Committees—When?

Committees should only be appointed when there is a need for them. It must be recognized that men are busy and will soon tire of being asked to give time and thought to trivial, wornout, or impossible problems. This requires judgment and a knowledge of the pressing and timely problems of the industry. In the Pacific Coast Gas Association the appointment of committees rests with the Board of Directors and is delegated to the Section Chairmen, each carefully selected for his knowledge and experience and on his record as an Association committee worker. To aid in perfecting the section program, each section has an executive committee composed of a representative of each company member of the Association. The plans are drawn up by the Section Chairmen, approved by the Board of Directors, and then referred to the Section Executive Committees for suggestion and the appointment of committee personnel. Inasmuch as the membership of Section Executive Committees does not change from year to year, a very satisfactory stability is attained which aids in securing continuity in the section work.

This permanence of organization is carried even further. For instance, nearly every problem confronting the engineering organization of a gas company can be definitely placed as a production problem or a distribution problem. The Technical Section has therefore permanent committees on Production and Distribution, each made up of the principal production engineers or distribution engineers of member companies. The personnel remains practically the same from year to year. These committees outline the work in their respective fields and recommend the appointment of subcommittees to study specific problems. A third standing committee in the Technical Section is the Natural Gas Committee, which operates in a similar manner.

The Commercial Section has two standing Committees: Domestic Sales and Industrial Sales, each with a number of subcommittees, the number varying from year to year as problems arise and are solved. The Public Relations work also comes under two distinct classifications, those which are internal to the company, affecting the welfare and education of employees and their relation with the management, and those which are external, affecting the relation of employees with customers and the standing of the company in its community. The Accounting Section division is also distinct—Capital Records and Operating Records, each subject to several subdivisions as the need may arise.

The excellent contributions of the Pacific Coast Gas Association to the literature of the industry can be ascribed largely to the organization of its committee structure.

Where Do Committeemen Come From?

It is obvious that excellence of organization and care in the instruction of committees will both be wasted if the committee members themselves refuse or are incapable of doing their work. The major considerations in selecting the members of a committee are that:

1. The men selected must know and be interested in the subject.

2. They must be willing and able to spend the time and effort required by the assignment.

3. The committee must be representative of the industry; that is, its members must be so chosen that as a group it will include all important viewpoints of the problem in hand, as affected by geography or other limiting conditions.

In an Association as large as the Pacific Coast Gas Association and one representing such a tremendous and varied territory, the selection of effective committees has been a difficult problem. Happily a solution has been found in the organization of the Section Executive Committees which function not only to advise the Section Chairmen on the drafting of the program but also select the personnel of each committee. Each member company in the Association is represented on the Executive Committee of each section by an appropriate officer. Early in the year this officer receives the complete program of his section with the request that he select capable men from his organization for each committee. He naturally knows the problems in which his company is interested and he further knows better than anyone else the capabilities and interest of his men. To those committees which have been assigned a problem whose solution is of value to his company, he appoints his best possible man. To the balance he makes no appointment. The result is a compact and representative committee which will function excellently if its chairman provides it the proper leadership.

How Does a Committee Function?

Adequate leadership of a committee is the last essential to success. The deliberations of any group of men, no matter how small, will result in nothing tangible or at best will fritter away in desultory conversation unless there is one among them with the authority and ability to guide the thought and demand results. The chairman of each committee must accept this responsibility.

Upon his appointment he should first carefully study the instructions given him and be sure he understands what he has been asked to do. He should then study the work done by any previous committees on the same subject in order to take advantage of their success or errors and to avoid needless repetition.

His first communication to the members of the committee should define the problems to be studied and the method of attack, and assign to each member a definite share in the work. It is a mistake for a chairman to introduce himself to his committee by asking for suggestions. When it is considered that a committee is seldom organized before December 1, and that its report should be written in June, we realize that there are only six months of working time. It comes at the busy season for gas company employees and a committeeman is fortunate if he can spare an hour a week of his working time to his committee, or say 26 hours per committee per year. There can be no lost motion or hesitation if results are to be attained. The chairman must take hold promptly and follow up vigorously.

Other than this, no general rules as to the conduct of a committee can be laid down. Some committees are assigned to the collection of data and others to research, and the procedure will of course vary. Occasional meetings are very helpful, but when this is impossible a great deal can be accomplished by correspondence. Questionnaires are greatly overworked and should be avoided. A properly selected committee will have all essential information at the command of its members, making a general questionnaire unnecessary. When the work is completed or when the time is up, the chairman should assemble his data and write the report. This should be done in sufficient time so that it can be sent to committee members for criticism before its final submission.

Preparing the Report

Many books have been written on the subject of preparing reports, and these are available in public libraries. Briefly stated, the first requisites are that one must have something to report and then state it in as few words as possible, consistent with clearness. Long quotations, non-essentials, and padding of every kind should be omitted. A report should of course be typewritten, double spaced, and proof read after it is typed. All tables and figures should be numbered and referred to by number in the text. The copy presented for publication should be accompanied by photographs and the original drawings, or tracings of them, done in india ink. Blue prints and photostats will not reproduce. Curves drawn on cross section paper should be drawn on blue line paper with the main lines traced over in india ink or should be traced, reproducing only the essential cross section lines. All photographs and drawings should be identified by their caption or figure number. It is helpful to accompany the report with a separate typed list of all captions. Footnotes or references should be placed in the body of the text, starting on the line immediately following the one containing the reference mark and separated from the main text by ruled lines. If there are a great many references they are best numbered consecutively throughout the report and the actual references placed in a group at the end.

In drafting the body of the report an outline is helpful, as it aids in assuring the author that all essential matter is included and all non-essential matter excluded.

Among things that are essential are:

An opening statement giving purpose and scope of report.

A description of apparatus and test procedure—if any.

A clear and logical presentation of the data or material forming the basis of the report.

A conclusion summarizing the opinion of the committee and the reasons therefore.

Among things that are non-essential are:

Any report which does not contribute to the knowledge of the industry.

Quotations from previous reports or from any accessible source. A reference is sufficient.

Derivation of well-known formulae.

Detailed answers to a questionnaire. These can usually be summarized.

Lengthy expressions of personal opinion not supported by the data presented.

Any other form of verbal padding not contributing to the argument.

Chemical Society Elects A. B. Lamb as Head in 1933

ELECTION of Professor A. B. Lamb, of Harvard University, as president of the American Chemical Society for 1933 is announced. The president for 1932 is Dr. L. V. Redman, vice-president and director of research of the Bakelite Corporation, Bloomfield, N. J., who succeeded Professor Moses Gomberg of the University of Michigan on January 1.

The Society elects each year a president and a president-elect who serve in successive years.

Resuscitation, Drowning, Electrocution and Asphyxia

A Report of Discussion Before Physiological Section, British Association

By CECIL K. DRINKER, M.D.
Harvard University
School of Public Health

The Physiological Section of the British Association gave one entire morning to the subject of resuscitation, the meeting being attended by those prominent in the subject in England and Scotland, and by Doctors Yandell Henderson and Cecil K. Drinker from the United States. Dr. Drinker has provided the accompanying summary of the meeting for the American Gas Association

SIR EDWARD SHARPEY-SCHAFER, F.R.S.

Resuscitation in Asphyxia

PROF. SHARPEY-SCHAFER first listed the prominent causes of asphyxia and alluded to the emergency character of asphyxial accidents and the inefficacy of physicians in dealing with them. He then gave an historical review of the development of the prone pressure method of resuscitation, and described how its actual adoption throughout England followed a drowning accident at a Henley Regatta, in which a young woman was revived by pressure applied rhythmically to the abdomen while she lay upon her back, but died some hours later and was found to have a ruptured liver. Recognition that this accident would have been avoided had the prone pressure method of resuscitation been used, caused a sufficient degree of attention to launch the new type of resuscitation practice in Great Britain.

Professor Sharpey-Schafer showed slides indicating the manner in which he felt the prone pressure method of resuscitation should be carried out, and it will interest readers of the AMERICAN GAS ASSOCIATION MONTHLY to know that one of the slides showed a man in the prone position with his left hand under the cheek, as is the usual practice in this country. This particular position has been condemned and it has been stated that it is against Professor Sharpey-Schafer's directions. The facts are otherwise.

Professor Sharpey-Schafer laid particular emphasis upon the use of intravenous injections of adrenalin, in order to improve the failure of circulation which occurs as asphyxia becomes really dangerous. He closed by making a plea that medical men should be given more instruction in the treatment of asphyxia and again reiterated his opinion that at the moment training in this matter is highly inadequate in medical schools.

PROFESSOR YANDELL HENDERSON

The Use of Carbon Dioxide in the Treatment of Asphyxia

Professor Henderson concentrated his remarks on the effect of carbon dioxide in preventing pneumonia, which is so frequently a dangerous sequel of asphyxia. He described the use of the inhalation treatment after asphyxia due to anaesthesia, and various other causes including asphyxia of the new-born. He felt that pneumonia had been greatly reduced since the oxygen-carbon dioxide inhalation treatment has been used, and that this procedure should have an increasingly widened use. Dr. Henderson stated that in severe asphyxia depressed breathing and low tonus of the muscles of the thorax permit collapse of parts or all of a lung. Following this collapse, if infection is present, pneumonia develops. Respiration and muscle tonus are stimulated by inhalation of carbon dioxide, the lungs are kept open, and the development of pneumonia is prevented.

PROFESSOR CECIL K. DRINKER and THOMAS J. SHAUGHNESSY

The Treatment of Carbon Monoxide Asphyxia

This paper was delivered by the writer, who described in some detail the organization of the emergency work in resuscitation of the New York Consolidated Gas Company. Since certain parts of this paper are of particular interest to the gas industries, they are given in full.

After describing the general details of the organization of the emergency work of the New York Consolidated Gas Company, Dr. Drinker turned to actual experience with the oxygen-carbon dioxide inhalation treatment and said:

"We owe the practical suggestion to use carbon dioxide with oxygen to Doctors Henderson and Haggard (1). The treatment has become universal in the United States, and although subjected to a certain amount of criticism

(2) has amply justified itself. While there are many features of the mystery of the action of carbon dioxide on breathing, and particularly on breathing during severe oxygen lack, which interest us greatly, we have chosen to confine ourselves to the practical aspects of the use of this respiratory stimulant.

"In the first place, manual artificial respiration alone is a very inadequate method of treating carbon monoxide poisoning. It is at times the indispensable first measure, and must be heavily stressed in the training of all who may meet the condition. In our earlier New York experience in 1926, we advised the use of artificial respiration only when urgently required, feeling that the CO_2 inhalation would take care of those who were breathing when discovered. As a matter of fact very few cases of carbon monoxide poisoning are encountered during the period of a few minutes which must elapse between cessation of breathing and subsequent cessation of heart beat. For example, during 1926, when we were especially anxious to follow such patients, we had but two in 559 cases. One of these we attended ourselves until he was out of danger. He was discovered by a policeman who was giving artificial respiration when we arrived. The man was thought dead and was wholly without detectable respiration or detectable heart beat. After a few minutes of artificial respiration combined with oxygen-carbon dioxide inhalation, he began to gasp, and after about forty minutes of inhalation recovered sufficiently to protest against the inhalation work.

"As a matter of record artificial respiration was used in 19 of the 559 cases, generally in instances where the breathing was poor and the emergency men were satisfied little of the inhalation mixture was being taken. Today the percentage receiving artificial respiration with the first administration of the inhalation is much larger. Unquestionably the important thing to do is to get the oxygen-carbon dioxide mixture into the lungs and in the later stages of CO poisoning, when treatment is most imperative, the patient is frequently breathing so badly as to require assistance by the prone method.

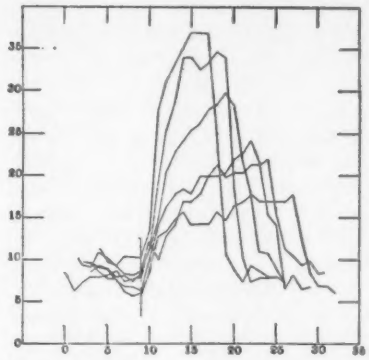


Fig. 1.—Response of six young men to inhalation of 5 per cent carbon dioxide in air. Ordinates, minute-volume of breathing in liters; abscissas, time in minutes

"The inhalation treatment of carbon monoxide poisoning, which is the designation we now use for the oxygen-carbon dioxide inhalation, was launched in the United States in 1923 through endorsement by the last Commission on Resuscitation. This body provided funds for the development of the treatment by Doctors Henderson and Haggard, who were members and who accomplished most of the work of the Commission. It was recommended at this time that a mixture of 5 per cent carbon dioxide and 95 per cent oxygen be employed. If one of us (C.K.D.) is correct in his recollection, Dr. Henderson advised the use of a higher concentration of carbon dioxide in one of the last meetings of the Commission, but was persuaded to start with 5 per cent carbon dioxide by other members of the Commission (Doctors Francis W. Peabody, Lawrence J. Henderson, and Cecil K. Drinker), who felt that carbon dioxide in the neighborhood of 10 per cent was apt to cause headache and that at the outset it was prudent to avoid any possibility of untoward effects, since the treatment recommended must be given by laymen. As time has passed the authors have had ample opportunity to realize that different persons respond very differently to 5 per cent carbon dioxide (3).

"That this is the case is well shown in Figure 1. Here one individual inhaling 5 per cent CO_2 and 95 per cent oxygen experiences an increase in the air breathed per minute from 8 to slightly over 15 liters, while another increases from 10 to more than 35 liters. These reactions were obtained from healthy young men, medical students, and the great variation in response between individuals cannot be correlated with height or weight or any known physical factor. The response of any individual is reasonably constant from day to day, as is shown by Figure 2, and the general character of the response remains the same when the amount of carbon dioxide breathed is increased.

"It is not unreasonable to believe that a patient of the type reacting by but slight increase in respiratory volume to 5 per cent carbon dioxide and seriously poisoned with carbon monoxide, must have a poorer chance

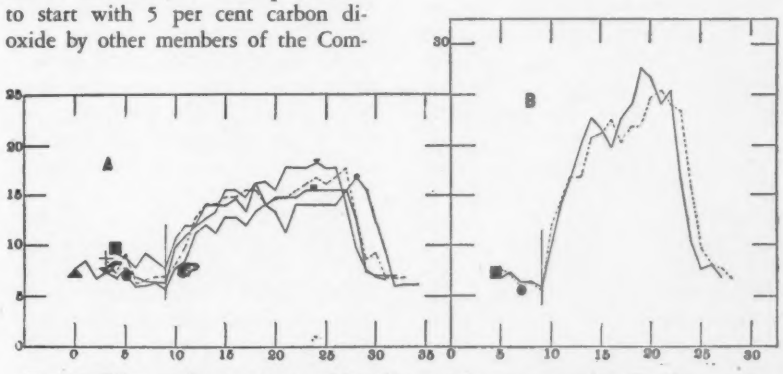


Fig. 2.—Effect on the same person of breathing 5 and 7 per cent carbon dioxide.

A. ■, 5.03 per cent carbon dioxide in air, March 6, A.M.; ●, 4.98 per cent carbon dioxide in air, March 4, A.M.; ▲, 5 per cent carbon dioxide in air, March 22, A.M.; +, 4.98 per cent carbon dioxide in air, March 22, P.M.

B. ■, 7 per cent carbon dioxide in air, April 17, A.M.; ●, 7.01 per cent carbon dioxide in air, April 17, P.M.

Vertical lines in both curves indicate beginning of carbon dioxide inhalation. Ordinates, minute-volume of breathing in liters; abscissas, time in minutes.

for recovery under treatment than one who normally achieves a large increase of minute volume when inhaling 5 per cent carbon dioxide. Furthermore, there is no doubt that when carbon monoxide has become dangerous to life, and the breathing is shallow and ineffectual, one can readily show in animals that 5 per cent carbon dioxide inhalations have no immediate effect upon respiration, whereas 7 per cent concentrations are definitely stimulating.

"As a result of these two general facts—that is, the existence of individuals comparatively resistant to carbon dioxide stimulation and the fact that stimulation is more difficult in advanced poisoning—we have increased the concentration of carbon dioxide from 5 to 7 per cent (4) and this change is in practically universal use in the United States at this time. We began this new practice early in 1929, when we had three years of experience with the old 5 per cent concentration. Our results have been surprising and seem to us to be referable to the increase in carbon dioxide rather than to any other factor. They are shown in Figure 3. In this figure we have recorded the total number of cases alive when found and treated by the inhalation method. The number dying after treatment in 1929 and 1930 is greatly reduced and this reduction holds good for the current year through July. When one follows the actual cases one has interesting experiences which some of you will recognize as closely paralleling animal experiments. We have records of patients who while inhaling the 7 per cent carbon dioxide and 93 per cent oxygen mixture have regained partial consciousness and wished to rise, but have lapsed again into coma when the operator shifted to the 5 per cent mixture.

"A few of our readers may have seen the effect of much higher concentrations of carbon dioxide in revivifying patients in profound katatonic stupor. The effect in such cases is, of course, transient, but it is certainly very like what one may see in the coma of carbon monoxide poisoning. In this general connection we are permitted to mention recent experiments by Doctors Bock and Dill, performed in the Fatigue Laboratory of Harvard University. Dr. Bock breathed 9 per cent oxygen in 91 per cent nitrogen for 73 minutes. At the close of this time he could hear but badly, his vision was indistinct and he had a violent headache. He found that if he added 2.5 per cent carbon dioxide to the mixture he was able to breathe 9 per cent oxygen for an hour without discomfort of any sort. In the first instance his arterial

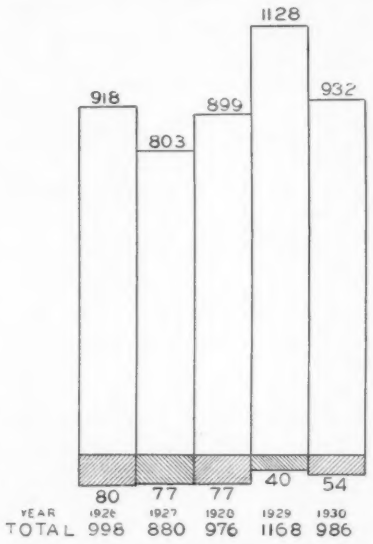


Fig. 3.—Columns indicate total number of cases of carbon monoxide poisoning per year treated by the inhalation method. Shaded blocks indicate the number of deaths. Just prior to 1929 a change was made from 5 per cent to 7 per cent CO_2 in the inhalation mixture

blood O_2 was 13.66 Vol. per cent and CO_2 39.88 Vol. per cent. In the second, the O_2 was 16.17 and the CO_2 47.67. We cannot but feel that carbon dioxide possesses specific powers of prime physiological significance in addition to its effect on hydrogen ion concentration.

"There is a final feature of our experience upon which we shall perhaps be in disagreement with other members of this symposium. It concerns the outcome of all these cases. So far as death is concerned our experience is, we believe, that of all others. Death occurs in three general ways as a result of carbon monoxide. There is, first of all, the death which takes place without removal from the gas. Second, there is death which comes from a few hours to several days after the exposure, but due to degenerative processes ascribable to the period of severe asphyxia suffered by the patient. Third, there are the cases of fatal broncho-pneumonia and pulmonary edema which appear after very severe poisoning and prolonged unconsciousness. Our records are not complete enough to show convincingly which of these three varieties of death we are beginning to reduce. We are inclined to believe it is the second, since terminal pneumonia continues frequently. There is no especial reason why any method of treating poisoning should affect the appearance of pneumonia several days after the intoxication. We are inclined to think of pneumonia after serious carbon monoxide poisoning as much the same sort of pneumonia which is seen accompanying prolonged unconsciousness from many different causes.

"In regard to the patients who live, it must be felt that with such a large number of cases, we have in New York a great group of persons displaying all sorts of nervous symptoms referable to nerve cell destruction through oxygen lack. Such is not the case. Our patients either die or get as well as they were before the toxic episode. As nearly as we can determine 60 per cent of the New York cases are suicidal and many of them are mentally abnormal when the poisoning occurs.

"In seeking information upon the outcome of serious poisoning we have gone over the records of 518 patients admitted to Bellevue Hospital between January 1, 1926, and May 19, 1931. Of this number 124 died in the hospital. One hundred and eighteen were transferred to the psychiatric division and except two, one of whom died of tuberculosis and the other of myocarditis, were eventually discharged. Fifty-two were mentally depressed when discharged, but exhibited no other symptoms. Two patients alone showed chronic symptoms definitely referable to their poisoning. One of these had a rather complete loss of memory and periodical tremulous shaking of the head. The second developed Parkinsonian symptoms

and was felt to have lesions in the basal ganglia. It is, of course, possible that some degree of loss of memory and change in disposition may have been present in more of these patients, but it is more certain that practically none of this large group of patients survived acute poisoning to endure serious neurological sequelae. In the United States we do have occasional blindness, paralyses of various sorts and bizarre psychoses which are certainly referable to carbon monoxide poisoning and to this condition alone. These occurrences are rare and consequently are usually reported in medical literature. They sensitize us to the idea that the commonest type of oxygen lack from which we may suffer leaves a train of chronic damage of very considerable extent. Our experience is to the contrary. Possibly as measures for resuscitation still further improve we will save more of the most severely poisoned cases, and among these there will be an increasing number of permanently crippled persons."

SIR FRANCIS E. SHIPWAY

Resuscitation

Resuscitation may be defined briefly as the restoration of the nervous and muscular activities of the body. These activities depend largely upon an adequate supply of oxygen and the removal of excess of carbon dioxide. The exchange of gases may be interrupted in the following ways: (1) temporary paralysis of the nervous system owing to lack of oxygen or the action of anaesthetics; (2) paralysis of the muscles of respiration, generally secondary to paralysis of the nervous centers; (3) failure of the circulation of the blood.

Treatment is based upon the foregoing conditions. Artificial respiration combined with oxygen and a small percentage of carbon dioxide will supply the needs of the nervous system and reduce the amount of the anaesthetic which is depressing the nervous centres; further, the alternate expansion and contraction of the lungs produce a mechanical effect by pumping the blood, and a respiratory reflex, the Hering-Breuer phenomenon, if the medulla is excitable.

The pumping action of the heart can be improved by the supply of oxygen and of carbon dioxide, and also by the mechanical effect of the artificial respiration. In case of failure of the heart to beat, cardiac massage, puncture and adrenalin should be employed without delay.

In the case of a child apparently still-born there are the following points to remember: Its nervous system and its heart are more resistant to lack of oxygen than is the case in the adult; its lungs resemble a solid organ, and require inflating with air. Mouth to mouth inflation supplies sufficient oxygen and carbon dioxide, warmth increases the excitability of the nervous system and the metabolism. In more serious cases artificial respiration by the method of Schafer, administration of small percentage of carbon dioxide, are necessary measures.

In the adult, arrest of breathing may be due to mechanical obstruction, paralytic causes, or a combination of these. The airway may become inadequate owing to spasm of muscles, swelling, excessive secretion, the presence of a foreign body, or interference with lung expansion. Paralytic arrest of respiration may arise from (a) toxic effects, such as an overdose of an anaesthetic, or (b) anoxaemic condition due to an insufficient supply of arterial blood caused by shock, sudden change of posture, influence of anaesthetic on cardio-vascular system.

In considering the methods of treatment the advantages and disadvantages of the Sylvester and Schafer methods of artificial respiration must be weighed in relation to the nature of operation.

The value of direct irritation of the heart by puncture of the muscle through the chest wall, with or without injections of adrenalin, was again emphasized.

SIR BERNARD SPILSBURY

Cases of Acute Asphyxia with Observations on the Heart

Two cases were reported: (1) a young man who collapsed at the end of an operation for removal of tonsils, chloroform having been used as an anaesthetic, and (2) a small child given ether to permit a rectal examination.

The first case was most interesting. In it the surgeon recognized the extremely dangerous condition of the patient almost at once and opened the abdomen about two minutes after his collapse, so as to permit massage of the heart. Massage of the heart by hand was continued almost an hour when regular beating began and continued for twenty-four hours when the heart finally stopped. Artificial respiration was necessary during this entire period. It is probable that the heart was not beating at all for two minutes and then functioned as a result of manual pressure. Shortly after the abdomen was opened the surgeon cut through the diaphragm and was able to grasp the heart itself so that his manual squeezing made the organ perform fairly well as a pump. There is little doubt, however, that during an hour's time the circulation was not at all good. At autopsy the brain showed much congestion, but was not examined microscopically.

The second case could not be followed with so much accuracy.

It was the feeling of the authorities that after the heart has stopped for a period of 5 to 9 minutes, the chances for complete recovery are very slight indeed.

PROFESSOR J. A. GUNN

Survival of Tissues after Stoppage of the Circulation

Professor Gunn gave a number of instances of the length of time tissues in the various parts of the body survive asphyxia. He felt the more important nerve structures could not survive complete asphyxia more than 15 minutes. This figure is, perhaps, unduly long for certain parts of the system.

PROFESSOR J. S. HALDANE

Concluding Remarks

In summarizing the meeting, Professor Haldane referred particularly to the oxygen-carbon dioxide treatment of asphyxia and felt the work marked

a great advance in procedure. He believed the results of the treatment in combatting unconsciousness, as described by Dr. Drinker, were due to improvement of circulation through the brain.

Bibliography

1. Henderson, Y., and Haggard, H. W.: Treatment of Carbon Monoxide Asphyxia by Means of Oxygen-Carbon Dioxide Inhalation. Journal of the American Medical Association, 1922, *79*, 1137.

2. For a discussion of publications adverse to the treatment, together with references, see Drinker, C. K., and Shaughnessy, T. J.: The Use of 7 Per Cent Carbon Dioxide and 93 Per Cent Oxygen in the Treatment of Carbon Monoxide Asphyxia. Journal of Industrial Hygiene, 1929, *11*, 301.

3. Heller, E., Killiches, W., and Drinker, C. K.: The Evaluation of 5 and 7 Per Cent Carbon Dioxide Mixtures as Respiratory Stimulants. Journal of Industrial Hygiene, 1929, *11*, 293.

4. Drinker, C. K., and Shaughnessy, T. J.: The Use of 7 Per Cent Carbon Dioxide and 93 Per Cent Oxygen in the Treatment of Carbon Monoxide Poisoning. Journal of Industrial Hygiene, 1929, *11*, 301.

Hospital Installation of Drinker Respirators

AT the 1930 Annual Convention of the American Gas Association there occurred the first public demonstration of the Drinker Respirator, the device for prolonged treatment of patients suffering from respiratory failure, such as may be induced by submersion, carbon monoxide poisoning, electric shock, morphine poisoning, infantile paralysis, etc.

The development of this device was made possible financially through the support of the Liability Insurance Fund of the Consolidated Gas Company of New York. On November 18, 1931, Drs. Philip Drinker and Louis Agassiz Shaw of Boston were honored by the award of the John Scott Medals and premium for their invention of this respirator, by the Franklin Institute of Philadelphia, Pennsylvania. Neither the A. G. A. nor any one of its member companies has any financial interest in promoting the sale or use of this device.

Since its first availability in 1929 about 150 Drinker Respirators have been put into use in the United States. A considerable number of these respirators have been installed in hospitals by local gas companies, particularly in the larger cities.

Their availability during the recent outbreak of infantile paralysis in certain sections of the country proved of great assistance in combating the effects of this disease and their use in this connection has been followed by a considerable amount of newspaper publicity.

Speaking generally, the most effective location for a respirator of this kind, designed for prolonged treatment of patients suffering from respiratory failure, is in a local hospital rather than upon the premises of the gas utility company. Many member companies have expressed a desire to arrange for the installation of one or more respirators in local hospitals, but have felt it impractical to make an outright donation of the machine in view of its first cost—about $2,000—and have inquired as to the propriety of carrying such an investment in the capital accounts of the company when the respirator itself is installed not on the company's property but in a local hospital because of its greater usefulness under these conditions.

For the purpose of obtaining some informal opinion as to what might be the attitude of regulatory commissions on this question, the Association has corresponded with E. V. Williamson, chairman of the Committee on Statistics and Accounts of the National Association of Railroad and Utilities Commissioners. While no advance approval is possible under the circumstances, the opinion has been expressed by Mr. Williamson that "Provision is made in the classifications for capitalizing items of property providing title remains with the utility. The question of the desirability or usefulness of such an appliance is obviously one for the management to decide. Where an expenditure of this nature was deemed necessary by a company, the commission would allow the item as a part of fixed capital even though it should be located in the hospital. Of course, the company would have to retain title to the machine in order to carry it in the fixed capital."

Mr. Williamson further states "The location of such an item in the hospital may lead to certain costs incident to the operation thereof, and also to the receipt of fees for its use by others, which items of expense and revenue, if any, could be charged to the appropriate accounts in the classification," whether it be for manufactured or natural gas companies.

The medical profession and the press have warmly welcomed the liberality of gas companies and their competitors to public service by promoting the saving of human life. The respirator in local hospitals has proved in actual use to be a practical and effective device in treating over long periods cases of respiratory failure due to any one of many causes.

Air Butane Plant in Oregon Nears Completion

NATURAL Gas Corporation of Oregon is completing work on its air butane gas plant, at The Dalles, near Salem, Oregon.

This plant is the sixth to be constructed by the company since the latter part of 1930, and will be of the same general design and operation as those already located at Klamath Falls, Bend, Coquille, Cottage Grove and La Grande. Construction work is being taken care of by the Standard Management and Operating Corporation, with J. H. Lane in charge as resident engineer.

It is estimated there will be a total of 200 consumers on the line shortly after the plant goes into operation, with a total of 500 by the end of the second year.

The plant will have a capacity of 7,200 cu.ft. per hour, with a liquid storage holder of 15,000 gallons capacity and two finished gas holders of 12,500 cu.ft. each. Construction will include the laying of 45,000 feet of high pressure distribution system.

Civic and fraternal organizations of The Dalles were active in their support to secure a sufficient number of signatures of local residents who would be ready to take gas service when it was available, in order to assure the construction of the plant at the present time. These organizations took part in an official ground breaking ceremony held at noon on October 23, with President Ward Webber of the Chamber of Commerce, in charge. This ceremony included the laying of a length of golden pipe by Mayor Fred Thompson which was witnessed by a group of about 1,000 spectators.

New Gas Plant in Basel Is Completed

By ALBERT W. SCOTT,
American Vice-Consul, Basel, Switzerland

A NEW gas plant under construction in Basel since the latter part of 1928 was completed and made ready for operation last fall. Construction of the new plant was necessitated by the city's increasing gas consumption, which could no longer be taken care of adequately by the old plant. With the exception of its reservoirs, the former installation will be entirely replaced by the new works.

Built at a cost of Frs.15,500,000 ($2,992,000), the plant just completed is of the most modern type of construction and is fitted with the latest developments in machinery and equipment for the efficient and economical production of gas. At the beginning, its daily production capacity will be more than 100,000 cubic meters, and with enlargements that are contemplated, production can be increased eventually to 300,000 cubic meters a day, this being four times the maximum daily production of the former works. The new installation will enable the Basel gas works to supply not only all of the gas that is needed by consumers in the city of Basel, but also a surplus for distribution in the district surrounding Basel.

Since 1868, the gas works in Basel have been owned and operated by the Cantonal Government, as are the city's street railways, electricity works, and water works.

Cost of Construction

The cost of the various items entering into the construction of the new plant are given as follows, in United States currency converted from Swiss francs at the rate of Frs.5.18 to the dollar:

1. Levelling the grounds, sewerage, road, fences, water pipes, gas pipes, electric wiring, office and service buildings	$ 504,800
2. Equipment for the production of gas	1,188,400
3. Equipment for measuring and storing the gas	186,700
4. Equipment for elaboration of by-products	342,700
5. Auxiliary equipment, boiler, transformers, pumping station, side tracks, repair shops, store houses, garages	290,700
6. Pipe lines, compressors, lines to Liestal and Rheinfelden, connections with the city gas system	134,700
7. Management of construction work, interest, and about 5 per cent for unforeseen expenditures	344,200
Total	$2,992,200

The site on which the new gas plant is located was purchased some years ago and the cost charged in the accounts of the old gas works.

Practically all of the work was performed by Swiss firms. About three-fourths of the mechanical equipment was obtained from Germany, and the remainder was of Swiss manufacture. In purchasing from Germany, it was made a condition that as much work as possible on the equipment be done in Switzerland.

Economies in Production of Gas

It is claimed that the cost of production in the new plant will from the outset be slightly lower than the cost in the former works, even when all charges for amortization and interest on invested capital are included. Compared with the former cost of Frs.0.085 per cubic meter it is estimated that the cost in the new installation will be Frs.0.08. The cost of Frs.0.085 in the old works includes no charges for amortization and interest, since the capital invested had been gradually written off over a period of several years. When the capital invested in the new plant is amortized, it is estimated that the cost of production can be as low as Frs.0.04 per cubic meter. Items entering into the cost per cubic meter are estimated as follows:

	Old Works	*New Works*
1. Net cost of coal	Frs.0.044	Frs.0.010
2. Operating material	0.003	0.004
3. Repairs and upkeep	0.011	0.011
4. Wages	0.014	0.005
5. Interest and amortization	0.000	0.040
6. Office and other expenses	0.013	0.010
	0.085	0.080

It is expected that the receipts from coke, tar, and other by-products in the new installation will almost cover the cost of the coal. The cost of gas will therefore depend much less than in the past upon coal prices.

From the production of 1,000 cubic meters of gas, composed of 80 per cent coal gas and 20 per cent water gas, 2,660 kilograms of coal will be required in the new plant. Two thousand kilograms of coke will result, of which 580 kilograms will be required in production so that 1,420 kilograms will remain for disposal as a by-product. In addition, approximately 130 kilograms of tar will be produced. In the old works, 2,230 kilograms of coal were required for 1,000 cubic meters of gas, but the coke obtained amounted only to 1,740 kilograms of which 646 kilograms were required in production. There remained therefore only 1,094 kilograms of coke for sale on the market, and the tar production was only 110 kilograms.

An important factor in the operation of the new plant is said to be the saving of labor owing to the modern machinery used, which will require only one shift of workmen instead of three shifts as used formerly.

Located Near Rhine Harbor

The location of the new plant is on ground measuring 34 acres near the Rhine harbor and adjacent to the site of a new harbor soon to be constructed. The object of locating near the Rhine harbor is to be able to take advantage of the cheap rates of transportation on coal brought by the Rhine. Coal

from the Ruhr district of Germany, one of the chief sources of supply for Switzerland, may be brought directly by Rhine barge to Basel and unloaded at the gas works without transshipment.

Operation of Old Plant in 1930

The gas works in use until completion of the new installation were constructed in 1852 and had been operated by the Canton of Basel-City since 1868. The works had been improved from time to time, the total expenditures amounting to approximately Frs.16,000,000, now entirely amortized. A large part of the machinery and equipment had become obsolete and furthermore the plant was located so that the moving of coal trains on the streets between the river wharves or railway station and the gas plant had become a serious impediment to traffic.

Receipts, expenditures, and excess of receipts of the Basel Gas Works were as follows in 1929 and 1930:

	1929 Swiss Francs	*1930* Swiss Francs
Receipts	10,909,474	10,840,602
Expenditures	9,123,132	9,072,387
	1,786,342	1,768,215
	($344,854)	($341,265)

Frs.361,428 of the excess of receipts over expenditures for 1930 were written off for depreciation, leaving a balance of Frs.1,406,787 ($271,510) as net profit to be turned over to the Cantonal Treasury. Expenditures for 1930 included Frs.357,249 ($68,949) allowed to the Cantonal Treasury as interest on capital at 5½ per cent.

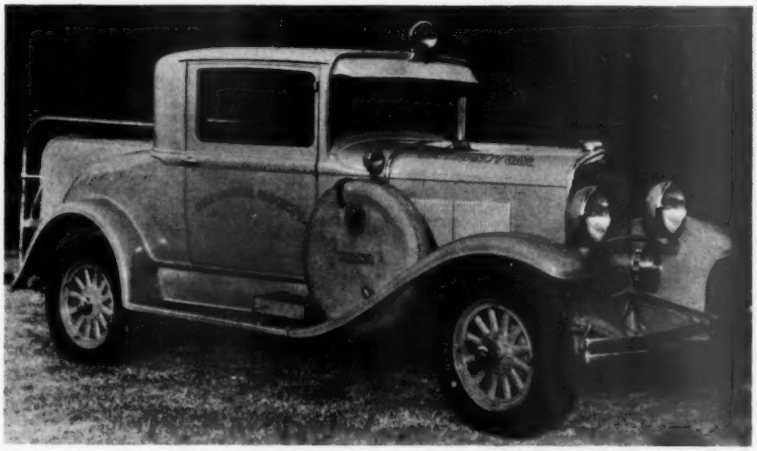
Total gas production in 1930 was 28,021,850 cubic meters, compared with 27,737,500 cubic meters in 1929.

The average price paid for coal in 1930 was Frs.35.68 ($6.89) per ton against Frs.33.50 ($6.47) in 1929. In 1930 the average yield of gas per ton of coal was 451.1 cubic meters, against 444.6 cubic meters in 1929.

Since November, 1927, when there was a slight reduction in the rate, the price of gas at Basel has remained at Frs.0.225 per cubic meter ($1.23 per 1,000 cubic feet), for monthly consumption under 75 cubic meters. For monthly consumption over 75 cubic meters, the price decreases according to a graduated scale to as low as Frs.0.13 per cubic meter ($0.71 per 1,000 cubic feet) for monthly consumption of more than 10,000 cubic meters.

By-products obtained in 1930 comprised 48,504 metric tons of coke, 3,038 tons of tar, and 144 tons of ammonia products. By-products were not disposed of so satisfactorily in 1930 as in the preceding year. Due to the mild winter months at the beginning of the year there was a smaller demand for coke. Ammonia products were sold with more difficulty than usual and at lower prices. There continued to be the usual good demand, however, for tar to be used for road surfacing.

Emergency Truck is Used To Aid Safety Work



Oklahoma Natural Gas Corporation's Emergency Truck

THAT an ounce of prevention is better than a pound of cure is the belief adhered to by officials of the Oklahoma Natural Gas Corporation, it is seen by the various safety measures now in active operation by the company.

And the policy already has borne fruit within the company ranks, according to R. S. Huffman, director of personnel. The number of accidents to company employees has been kept to a minimum, Huffman said, and it is largely due to sane methods used by the employees.

But it is not only within its own ranks that the company is an advocate of safety. Safe service to the public is also one of the company's primary aims, which is the reason and explanation of the safety truck bearing the Oklahoma Natural emblem which answers all fire alarms in Tulsa.

The car, a specially equipped coupe, is a small fire-fighting machine in itself. It is manned by a crew of two and is available for service during the 24 hours of each day. It carries extinguishers, all kinds of safety-first equipment including an oxygen inhalator. The crew is trained in all sorts of safety work.

The usefulness of the car has been recognized by R. E. Pitts, Tulsa fire chief, and it is present at most of the fires answered by the city fire-fighting forces. During the month of November the truck answered 19 alarms, 16 of these coming after the middle of the month. Five of the calls were answered between three and four o'clock in the morning. A fire-alarm system similar to that at the city fire-alarm office is maintained.

The company is always eager to inspect the stoves of its customers and check all flues and vents to see if they are in proper working order. Recently a warning was issued to the public asking that flues be properly taken care of in order to guard against accidents. It has been estimated that 55 per cent of Tulsa's homes are improperly vented. The company gives this inspection service without charge to the consumer.

Inside the organization, men's safety teams are drilled nightly, while the women attend safety classes regularly and have their own uniformed drill squad.

Gas for House Heating Shows Marked Gain

A GAIN of nearly 28 per cent in the sale of gas for house heating purposes was made in the United States during 1929-30, according to data in the American Gas Association Statistical Bulletin No. 9.

This same source of information shows that the production of bituminous coal in 1930 was 462,000,000 tons, a decrease of 14 per cent from the preceding year.

Increasing volume of manufactured gas for house heating is clearly indicated in tables set forth in a compilation by *Warm-Air Heating*. The number of house heating customers more than doubled (217 per cent) from 1928 to 1931, the sale of gas increased 285 per cent and the revenue 255 per cent. The gain in proportion to the non-heating domestic load was 220, 283 and 265 per cent respectively.

Natural gas has been making definite progress. The number of domestic consumers in 1930 was 5,448,000, an increase over 1929 of 350,000 or approximately 7 per cent.

A new high production record of 1,945,421,000,000 cu.ft. (U. S. Bureau of Mines) 1.3 per cent over 1929 was established, and while the average consumption per domestic user was less than in 1929, the proportion of the total consumption utilized for domestic purposes rose from 19 to 20 per cent.

Fifty-five thousand gas wells, seventy-two thousand miles of main and gathering lines and fifty thousand miles of distributing mains served a total population of 22,000,000. There were 20 per cent more customers in 1930 than in 1928, and the investment in natural gas properties has almost doubled in the past five years.

While it is more difficult to trace the growth of the use of natural gas as a house heating fuel than manufactured gas, there is no doubt that a greater and greater volume steadily is being used for heating. A large percentage of the natural gas is piped away from its point of origin to be mixed with manufactured gas and sold as "manufactured gas." So far, the A. G. A. Statistical Department has not classified mixed gas separately. This means that the extension of natural gas service to many centers of population has helped to build a house heating load now classified as manufactured gas.

The fact remains that only the increase in the house heating load in the past year has made it possible for the manufactured and natural gas industries to make gains in production, sales and revenue.

A visitor at the American Gas Association Convention and Exhibition last October was forcibly impressed by the rapid strides that leading furnace manufacturers have made in developing gas-fired air systems—gravity, forced air and air conditioning units. A number of new heating plants were on display making, with the previously shown furnaces, the largest and most inclusive display of gas-fired warm air heating equipment ever shown. The encouragement and cooperation given the gas-fired warm air furnace manufacturer, dealer and installer by the local gas companies will undoubtedly continue to build more and more house heating load, especially in those areas where natural gas is being introduced and where natural gas or mixed gas can compete favorably in cost with other fuels.

Gas, with its splendid advantages as a fuel—cleanliness, quietness, pay-as-you-use, no storage space and smaller heater, instant responsiveness and simplicity of control—is particularly well-suited to the warm air furnace and its new offshoot, air conditioning.

Munroe Award Applications Are Being Received

APPLICATIONS for the Charles a Munroe Award, which is a national recognition for achievement in the gas industry, are being received by the American Gas Association, 420 Lexington Avenue, New York City. The award will be made to the individual who is found to have made the outstanding contribution toward the advancement of the gas industry during the period from July 1, 1931, to June 30, 1932.

Under the terms governing this Award, the most conspicuous contributions to the general interests of the gas industry may be presumed to include the following: Research invention, operating methods or practices which reduce cost of production, transmission and distribution, improved distribution or other service, increased sale of gas, development of new uses for gas, improved public and employee relations, promotion of safety, development of improved accounting practices, widening the field of gas making materials, new methods of manufacture, finance, publicity, new gas works products and by-products, rates, etc.

The Charles A. Munroe Award consists of a substantial financial recognition accompanied by an engrossed certificate to be presented at the annual convention to be held in Atlantic City, N. J., October 10-14, 1932. Applications should be filed with Alexander Forward, Managing Director, American Gas Association, 420 Lexington Avenue, N. Y. C., promptly and not later than August 15.

Last year the Munroe Award was presented to Theodore V. Purcell, vice-president of The Peoples Gas Light and Coke Company, Chicago, Ill., for pioneering and constructive leadership in rate making; for focusing attention upon gas sales development and crystallizing the gas industry's economic policies to this end. The award consists of an engrossed certificate and $500 in cash.

Line of dryers in which tile is dried before being burned. These are heated with waste heat and gas burners

More Effective Handling of Heat in Gas Fired Kilns

By J. B. NEALEY,
American Gas Association

CERAMIC plants throughout the country have been gradually converting their kilns from raw fuel to gas firing, but the movement is now being accelerated because of the recent discoveries of unlimited supplies of natural gas, and its distribution over the entire United States through immense pipe lines. Although large numbers of plants have been using gas for many years, improvements in its application, efficiency and economy of utilization are continually being made.

Some of the best research along these lines in recent years has been carried on by the engineers of the Vulcan Plant, Birmingham, Alabama, of the National Fireproofing Corporation, Pittsburgh, Pa., which owns twenty-two plants scattered throughout the country. Improvements have not only been made here in the firing system itself but also in the method of handling the heat in the kilns to produce the best results. This concern makes structural clay tile for building construction, face tile and roofing tile.

Three different raw materials are used and these are drawn from three pits, owned by the company, as follows:

1. Shale for structural clay tile from pit near Warrior, Ala.

2. Fireclay from a mine near Warrior, Ala.

3. Plastic Shale from pit near Bessemer, Ala.

These materials are brought to the plant in railroad cars which are run onto a trestle 21 feet high and 250 feet long, and are dumped into three piles underneath. The trestle runs along one side of the plant and each pile is opposite the mill for which the material is intended.

Through the stockpile of Warrior shale runs a motor-driven disc feeder which feeds the shale onto a traveling belt conveyor which in turn feeds it into a hammer mill where it is ground to the required fineness. The Bessemer shale being wet and plastic is fed into a specially designed hammer mill, the shale entering at the center and being thrown out between the hammers and outer shell by centrifugal force. The Warrior fireclay is shoveled by hand into dry pans.

The shales are discharged from the mills onto belt conveyors which take them to three storage bins, two for the Bessemer and one for the Warrior. One of the Bessemer bins serves a mechanical layout for making roofing tile, through a rotary disc feed. This consists of a horizontal pug and augur mill into which different shaped dies are fitted according to the type of tile to be made. The column of plastic material is forced out onto a traveling belt conveyor and an automatic cutter, specially designed for tiles up to 14 x 14 inches. This consists of frames, with wires held in tension between, which travels on rollers parallel to the belt, while cutting, and then quickly returns for the next cut. In this way a perfectly square cut is obtained. The name of the company is impressed into the tiles by a wheel with raised letters which rotates against the column as it moves along.

The second bin has a gravity feed into a vertical pug mill for hand molding. The third bin with the Warrior shale, is equipped with a reciprocating type feeder which feeds the material into a combination pug and augur mill for which there are various dies for the production of the different types and sizes of hollow tile. The cutter is the same as the one described. The waste material from these layouts drops down into long narrow pits at the bottom of which are traveling belt conveyors which return the waste to the pug mills.

The tiles are placed on three deck cars operated on tracks which travel through a battery of 12 tunnel kilns for drying. Each dryer has its own track and the cars are switched from the main track to the several dryer tracks according to the loading schedules. However, instead of using transfer cars, the tile cars are pushed

into the dryers with a small tractor. The dryers are made of concrete, each being 116 feet long, 3½ feet wide and 5 feet high. Part of the heat is supplied by waste heat from the burning kilns and part by gas burners. A temperature of 110 to 300° F. is maintained and the tiles are allowed to remain in the dryers for about 24 hours.

The next operation is burning in the kilns and the cars are run out of the dryers to a cross over or main track, which runs down between the kiln of which there are two rows. The cars of tile are taken from the dryer tracks, by a motor transfer car on the main track, directly to the kilns for charging. Each kiln is also provided with a track so that the cars can be run directly into it.

There are eleven kilns, five 30 feet in diameter, five 36 feet in diameter and one which is used for test purposes, 12 feet in diameter. Formerly these were coal fired through the usual fire boxes but later were converted to gas firing. They are of the round, down draft type and the stacks were removed as draft fans were used in their place. In the smaller kilns the gas burners were simply cemented into the fire boxes while the bag walls were cut down even with the tops of the burners. The heat rises to the crown, is deflected down through the charge and floor to the draft tunnels and is exhausted to the atmosphere by induced draft. A single draft tunnel serves all but two kilns and is supplied with a motor operated 12-foot fan. Each kiln has a separate damper with which to regulate its draft.

The unique methods of firing, mentioned in the first part of this article, are used in conjunction with the larger kilns. Here the fireboxes were removed entirely and the apertures bricked up solid. The bag walls and stacks were also removed, and the kiln floors extended to the walls. This increased the capacity of the kilns by 20%. The lining wall was originally built independently of the kiln wall and sets in about a foot from the crown bearing wall. Advantage was taken of this construction to place the gas burners on top of the lining wall, which was corbelled out, at these points, to provide sufficient bearing surface. Twelve burners were used and as many 7-inch holes were made in the lower part of the crown, equally spaced.

The gas burner construction includes a 1½-inch pipe ending in a cast-iron bell mouth five inches in diameter. This sets in a tile (12 x 12 inch flue lining) which in turn sets on the corbelled portion of the inner wall and protrudes through the hole in the crown, to the outside of the kiln. The burners are all set at an angle so that they will fire tangentially to the inside wall of the kiln. Air for combustion is drawn through the space between the burner and the tile.

After a kiln is charged and sealed and the gas burners lighted, it is brought up to 1800° F., practically in a straight line, in about 50 hours' time, and it is then held at this temperature for 10 hours. During this time an oxidizing atmosphere is employed, the carbon and sulphur being burned out between 800 and 1600° F. However, with the oxidizing flame the lower portion is below temperature and to bring this up to heat, the flame is changed to reducing. This is accomplished by closing the draft tunnel damper and cutting the pressure of the kiln from .19 to .11 inch water pressure, and closing the dampers on the burner ports so as to reduce the amount of air for combustion.

This lengthens out the flame until it reaches to the bottom of the kiln and with this method the temperature of the lower portion of the charge can be brought up to within two cones of the temperature at the top within a comparatively short time. The kiln is kept on a reducing atmosphere for 15 hours, or until the work is completely burned. During this period, however, it is changed from reducing to oxidizing every three hours for a short period varying from 15 to 30 minutes otherwise that part of the charge closest to the burners would overheat, causing the carbon to combine chemically with the tile which would turn black. The atmospheric change-off this time is accomplished by turning the

Extending column of clay through die washing hollow building tile. Tile cut to length placed on cars in foreground to be run into dryers

Close-up of gas-fired kiln showing gas supply line running around top of kiln wall and burners spaced at intervals

burners off and opening the tunnel draft damper so that fresh air can be sucked in.

When the kiln is finished the burners are shut off, a hole is cut in one door and a flue inserted. The hot air is sucked out of the kiln, through this flue by a motor operated fan, and is forced, through another and longer flue, into the dryers. At the end of 20 hours the other door is opened and if the tile is wanted right away, cold air is blown in by a motor driven portable fan. Both cones and thermocouples are used in determining the temperature of the various parts of the kilns at different times during firing. The thermocouples are connected with a common switchboard and are switched onto indicating pyrometers for readings every hour and these readings are recorded and charted. No such control, as outlined above, is possible with any other fuel.

Hangs Up Safety Record

IN working 344 days without an accident causing loss of time by any employee, the Hunts Point Plant of the Consolidated Gas Company of New York has established a record for plant operation which not only is without precedent in the company, but is also believed to be unequaled by any gas manufacturing plant in the industry.

This Plant operated from November 21, 1930, to October 31, 1931, without an accident involving loss of time on the part of any workman. The record established is the equivalent of one man working for 144,638 eight-hour days, or 482 years, without a lost-time accident.

The Mechanical Department of the Hunts Point Plant, the Coal Gas Department of the Astoria Manufacturing Plant, and the First Avenue Shop of the Customers' Service Department have recently completed a full year's operation without a lost-time accident. Each of these departments has received an inscribed bronze safety plaque, which is given by the company to departments establishing one-year records.

The Customers' Service Department of the Central Union Gas Company and the same Department of the Northern Union Gas Company have each completed two-years' operation without lost-time accidents.

Public Utility Men Capture Safety Awards

Above are winners of trophies and certificates in the Public Utilities Section of the National Safety Council. The awards were made at the 1931 Congress held in Chicago in October. They are, left to right: M. E. Juhl, Lake Superior District Power Co., Ashland, Wis.; E. W. Richardson, Fall River Electric Light Co., Fall River, Mass.; C. W. Bergquist, president, National Safety Council, Chicago; E. A. Gawter, Hope Natural Gas Co., Pittsburgh; P. R. Kuhn, Penn Central Light & Power Co., Altoona, Pa.; E. W. Judy, Duquesne Light Co., Pittsburgh, Pa.

Hartford Gas Company Captures First Place in Advertising Contest

H. R. CARLSON, new business manager of the Hartford Gas Company, Hartford, Conn., was awarded the first prize for December in the monthly advertising contest conducted by the *Gas Age-Record*. The winning advertisement, headed "Why Fifteen Million Women Cook with Gas," is reproduced herewith.

In connection with this advertisement, it is interesting to note that without knowledge of the action of the *Gas Age-Record* judges in making this award, the American Gas Association picked this same advertisement and reproduced it in a broadside which was sent to members. Since this mailing many requests have been received at Association Headquarters for extra copies of the publication.

"The winning advertisement by the Hartford Gas Company has a copy appeal focused at electric range competition and especially at recent advertising using the caption 'Why One Million Women Cook with Electricity'" explains the *Gas Age-Record*. It adds: "The layout breathes with ample white space, the art treatment is essentially modern, and the message is compelling.

"The advertising of the Hartford Gas Company is prepared and executed by Howard C. Wilson & Associates, Inc., of that city, specialists in utility advertising. The progressive advertising programs of the utility have been directed by Mr. Carlson and Mr. Wilson, and their work has achieved splendid results for the Hartford Gas Company in a highly competitive market."

Mr. Carlson has been connected with the Hartford company since 1924. He was formerly Connecticut representative of the American Blower Company, Detroit, Mich., and joined the Hartford Gas Company as industrial engineer. He has been new busi-

(Continued on page 41)

Why *fifteen* million women cook with *Gas*

Because Gas-Cooking is . . . .

BETTER Modern gas cooking is fully automatic. Gas is more flexible and is more positively controlled than any other cooking heat. And remember, that more than three-fourths of the cooking is done on the cooking top where speed and flexibility are vital factors. In broiling, the gas flame sears the food instantly. Also bear in mind that gas range ovens are vented so that all vapors and odors go up the chimney where they belong and not into the kitchen.

QUICKER It is a well known fact that gas is the only fuel which will give maximum heat instantly. Just turn on the gas and you have heat at full force—pronto. Every other fuel necessitates waiting.

CHEAPER Gas heat costs less per person per meal than any other modern cooking fuel.

Ask any famous chef—look about you in hotels and restaurants—find out for yourself from professional cooks who know good food as well as they know the cost of cooking—ask those "in the know" what type of heat they use for short order cooking and broiling.

There will be just one answer and that answer will be

The little sharp blue flame . . it's hot. It has the cooking job well under way while other types of fuel are merely getting started.

He knows. When a professional cook wants boiling hot water . . . a frying or broiling heat—he won't wait and wait. He must have quick action, and he prefers gas every time.

· G · A · S ·

The **Hartford Gas Co.**

233 PEARL STREET PHONE 2-8151

H13

THE LOWEST HOUSEHOLD GAS RATES IN NEW ENGLAND

The Prize-Winning Advertisement

A. G. A. Affiliated Associations—

How They Started and How They Have Grown

NEW JERSEY GAS ASSOCIATION

Herewith is the first of a series of articles to appear in the "A. G. A. Monthly" giving an outline of the history and accomplishments of State and district utility associations which are affiliated with the American Gas Association. Work of these associations has proved of great value and a distinct contribution to the advancement of the gas industry. It is believed that this series will focus yet greater attention on the splendid records of these organizations.

By HERBERT E. CLIFF
Secretary-Treasurer

THE New Jersey Gas Association was organized on April 25, 1911, when eight executives of gas companies in New Jersey assembled together in Newark and saw the need for a centralized organization to encourage the discussion and solution of problems affecting the gas industry in New Jersey. From this small beginning the Association has grown in size and usefulness and today it is one of the largest and most active state gas associations in the country.

The history of the Association presents an interesting picture of growth and accomplishment. During the first few years following its inception, three meetings were held each year, two of which were devoted to the presentation and discussion of technical papers and the full exchange of ideas on current problems of the industry, and the third meeting each year was for the promotion of the social aspects of the Association. Attendance increased at each successive meeting. Committees were appointed as the need arose for the study of specific problems and the reports were presented at the Spring and Winter meetings.

The New Jersey Gas Association held several meetings in conjunction with the Pennsylvania Gas Association. This cooperative spirit of the two state Associations culminated in the organization of the Eastern States Gas Conference in 1922. The Eastern States Gas Conference was composed of members of the Pennsylvania Gas Association, the New Jersey Gas Association and representatives from Maryland, Delaware, West Virginia and the District of Columbia. While each state Association maintained its own identity, the joint endeavors permitted the undertaking of more comprehensive committee projects and presented the advantage of wider and more diversified viewpoints. The Eastern States Gas Conference continued to hold annual meetings until 1927 when it was mutually agreed that the interests of the gas industry in each state could best be served by reverting once again to meetings of the individual state Associations. That policy, which permits concentration on local problems, has been adhered to ever since.

In 1929 an important step was taken by the New Jersey Gas Association when its committee structure was fashioned after that of the American Gas Association, with which body the state Association is affiliated. This reorganization plan permitted the segregation of the Association's research activities into groups paralleling the sectional divisions of the American Gas Association and provided for very close cooperation between the state and national organizations. In addition to its various administrative committees, the Association now functions under the following divisions: Accounting; Industrial and House Heating; Merchandising; Technical; Home Service; and Manufacturing.

For the past several years the business meetings of the Association have been limited to one annual convention held in April of each year. Between 400 and 500 delegates, representing all branches of the gas industry in New Jersey, attend these one- or two-day annual meetings, where committee reports and papers describing current trends and new developments are presented.

Until two years ago a mid-summer meeting, or Association Outing devoted to the lighter affairs of life, was held each year at one of New Jersey's famous seashore playgrounds. While it is an established rule that pleasure should not intrude itself upon business, it was equally true at the outings that business should remain in the background and not interfere with pleasure. The outings served to strengthen that spirit of friendship and good fellowship so essential to any cooperative association. For the past two years these meetings have not been held, chiefly because of economic conditions.

During the twenty years since its organization, the New Jersey Gas Association through its committees has made many contributions to the progress of the gas industry, typical of which is the Industrial Gas Salesman's

Louis Stoecker, President, New Jersey Gas Association

Handbook, compiled in 1926 by the Industrial Gas Sales Promotion Committee. The purpose of the booklet was to assist those gas companies, which did not maintain an industrial gas department, to obtain the industrial gas business in their communities. The more general applications of industrial gas were summarized, together with a list of equipment manufacturers who make apparatus to suit the application, and the advantages of the ideal fuel over other fuels were stated. This booklet met a wide demand not only in New Jersey but in several other states as well.

The work of the New Jersey Gas Association is well illustrated by its committee activities. The Technical Committee holds periodic meetings of representatives of the member gas companies for round table discussion of manufacturing and distribution problems encountered in every-day work. These meetings, which are attended by about 25 men from the "firing line," permit full exchange of ideas as to how these same conditions are handled in the various companies. The Home Service Committee functions in much the same way—by the informal group discussion method. The Merchandise Committee is concentrating this year on a plan to increase the gas load through intensive sale of gas hot water heaters. The Industrial and House Heating Committee is preparing a House Heating Sales Engineering Manual which will include such information as is needed on the majority of house heating jobs. There is a wide need for such a manual in this comparatively new field.

One of the outstanding accomplishments of the Association is the recent establishment of an industrial fellowship at Rutgers University, New Brunswick, New Jersey, the object of which is a systematic and thorough study of the value of gas works by-products. A chemical engineer of wide experience is devoting his entire time for the period of one year to plant and laboratory studies in connection with the problems under investigation. The research is being carried on under the direction of the New Jersey Agricultural Experimental Station and the School of Chemistry of Rutgers University. Monthly reports of the progress of the work are submitted to the Association and at the expiration of the fellowship a comprehensive report summarizing the results of the year's research will be presented.

The members of the Association are kept advised of its current activities through the medium of an Association Bulletin, published quarterly. Items of current interest to the gas industry are included in the Bulletin. During the last two years a series of articles contributed by manufacturing company members, describing some of the problems encountered in the manufacture, design and sale of gas appliances, as well as developments of new appliances, has been featured in this publication.

W. H. Pettes, General Auditor, Public Service Electric and Gas Company. First President, New Jersey Gas Association

The membershsip of the New Jersey Gas Association has increased during each of its 20 years. Compared with the eight men whose far-sightedness paved the way for the establishment of the Association, there are now 850 public utility company employee members, 105 members from manufacturing companies, and nine gas company members—a total of 964—and the Association is still growing both in membership and usefulness.

Inventors of Respirator Receive John Scott Medals

FOR their invention of the respirator, Philip Drinker, Associate Professor of Industrial Hygiene, Harvard School of Public Health, and Louis A. Shaw, instructor of Physiology, Harvard School of Public Health, were presented with John Scott medals by the Board of Directors of City Trusts of Philadelphia. A premium of $1,000 accompanied the medals. Inasmuch as this was a joint award, the premium was divided equally between Professor Drinker and Mr. Shaw.

The presentation was made at the Franklin Institute, Philadelphia, Pa. Following this ceremony, Professor Drinker submitted a paper on "Prolonged Artificial Respiration." He discussed the application of artificial respiration by manual methods, and the instruction of employees of large utility companies in these methods.

He outlined the history of the invention, and the development of the respirator, explaining how a patient lies on a comfortable bed with his body inside the respirator, and his head protruding through a loose-fitting rubber disc. He also explained how breathing in the respirator is induced by the proper handling of a pump, and referred particularly to the infant-sized machine intended only for treatment of asphyxia in new-born babies. He added that the success of these machines had been proved by experience. Professor Drinker's discussion was accompanied by demonstrations of both the adult and infant-sized machines.

Affiliated Association Activities

Canadian Gas Association

THE ninth edition of the Canadian Gas Association List of Approved Appliances was issued December 1, 1931. It is reported that most of the Canadian gas companies are handling and selling appliances bearing the Canadian Gas Association Laboratory Seal of Approval. It is expected that these companies will continue their efforts to explain the meaning of the seal to customers. Manufacturers of gas appliances desiring listing in the 1932 series of editions of the Canadian Gas Association List of Approved Appliances, are requested to get in touch with George W. Allen, director of the Laboratory Approval Division, 21 Astley Avenue, Toronto 5, Ont., as soon after the first of the year as possible.

The dates for the annual convention of the Canadian Gas Association have been changed to Thursday and Friday, June 9 and 10, 1932. It will be held in Winnipeg, Manitoba, with headquarters at the Fort Garry Hotel.

Maryland Utilities Association

ANNOUNCEMENT has been made by D. E. Kinnear, secretary of the Maryland Utilities Association, that the annual meeting of this Association will be held Friday, April 8, 1932, at the Lord Baltimore Hotel, Baltimore, Maryland. Details of the program will be announced later.

Michigan Gas Association

THE Grand Hotel, Mackinac Island has been selected again for the annual convention of the Michigan Gas Association. It will be held on July 5, 6 and 7, 1932. A. G. Schroeder, Grand Rapids Gas Light Company, is the secretary.

Southern Gas Association

THE resignation of George Schlatter as secretary-treasurer of the Southern Gas Association was accepted at a meeting of its board of directors held in Birmingham, Alabama, on November 30. Mr. Schlatter has accepted a position with the Electrolux Refrigerator Sales, Inc. of Evansville, Ind. The vacancy was filled by naming J. M. Stone, general sales manager of the Alabama Utilities Corporation, Birmingham, Ala., as secretary-treasurer. For several years Mr. Stone traveled the South as representative of the Estate Stove Company. Prior to that he was a member of the sales force of the Georgia Power Corporation. Mr. Stone is well-known throughout the South.

Convention Calendar

Heating and Ventilating Exposition,
Cleveland Auditorium,
Cleveland, Ohio.
January 25 to 29, 1932.

New England Gas Association,
Hotel Statler,
Boston, Mass.
February 3 and 4, 1932.

A. G. A. Mid-West Sales Conference,
Sherman Hotel,
Chicago, Ill.
February 16 and 17, 1932.

A. G. A. Manufacturers Section,
Palmer House,
Chicago, Ill.
February 18, 1932.

A. G. A. Distribution Conference,
Tutweiler Hotel,
Birmingham, Ala.
April 6, 7 and 8, 1932.

Oklahoma Utilities Association,
Tulsa, Oklahoma.
March 8 and 9, 1932.

Maryland Utilities Assn.,
Lord Baltimore Hotel,
Baltimore, Md.
April 8, 1932.

Mid-West Gas Association,
St. Paul, Minn.
April 11, 12 and 13, 1932.

Arizona Utilities Assn.,
Tucson, Ariz.
April 13 to 15, 1932.

Missouri Association of Public Utilities,
Excelsior Springs, Mo.
April 28 to 30, 1932.

National Fire Protection Association,
Atlantic City, N. J.
May 9 to 12, 1932.

Natural Gas Convention,
Tulsa, Oklahoma.
May 9, 10 and 11, 1932.

Chamber of Commerce of United States,
San Francisco, Calif.
May 18 to 20, 1932.

National Electric Light Association,
Atlantic City, N. J.
June 5 to 10, 1932.

Canadian Gas Association,
Fort Garry Hotel,
Winnipeg, Manitoba.
June 9 and 10, 1932.

Michigan Gas Association,
Grand Hotel,
Mackinac Island, Mich.
July 5 to 7, 1932.

Pacific Coast Gas Association,
Davenport Hotel,
Spokane, Wash.
August 23 to 26, 1932.

American Gas Association,
Atlantic City, N. J.
October 10 to 14, 1932.

New England Gas Association

THE program of the annual meeting of the New England Gas Association, to be held at the Hotel Statler, Boston, Mass., February 3 and 4, 1932, is assuming shape, and present plans indicate a program that is expected to attract a large attendance.

There will be addresses by M. B. Webber, president of the New England Gas Association; R. W. Gallagher, president, and Alexander Forward, managing director of the American Gas Association. "Good Business—What Shall We Do About It" is the subject of an address to be delivered by Julius H. Barnes, chairman of the board of the Chamber of Commerce of the United States. Harold R. Sterrett, vice-president and general manager of the New Haven Gas Light Company, will speak on "Economics of Customer Service." "What Women Expect from the Utilities" is the subject chosen by Miss Katherine A. Fisher, director, Good Housekeeping Institute.

Samuel Insull, Jr., president of the Midland United Company of Chicago and chairman of the American Gas Association Commercial Section, will address the convention on "Our Major Sales Problem." W. A. Gilman, vice-president of N. W. Ayer & Company will speak on "The Twilight of Industry." "What the Manufacturers Expect from the Gas Companies" is a subject which will be covered by David F. Kahn, president of the Estate Stove Company, and chairman American Gas Association Manufacturers Section.

W. J. Donald, managing director, American Management Association, will speak on "Management and Responsibility." The report of the Committee on Dealer Utility Relations and commentary will be presented by P. W. Donoghue, president of the Master Plumbers Association.

Entertainment features will include the customary banquet and dance in the ballroom of the Hotel Statler, Wednesday evening, February 3.

Mid-West Gas Association

ARRANGEMENTS are being made for the annual convention of the Mid-West Gas Association to be held at St. Paul, Minnesota, April 11, 12 and 13, 1932, according to an announcement of the secretary, R. B. Searing.

Theatrical Paper Notes Gas Company's Publicity

IT is not often that theatrical publications, delve into the business of utility companies, but it seems that these interests come in for a share of consideration in such journals when they merit the attention of their columns.

Under date of November 11, *Variety* published a half column story about the synchronized commercial scenic reel of The People's Gas, Light & Coke Company of Chicago, depicting the gigantic operation of laying the natural gas pipe line from Texas to Chicago. In describing this picture, the paper said: "The reel picks up the story of the pipe line from the hole in the ground down in Texas, then shows it being stowed under river and over hill. The announcer injects romance into the many miles of ditches."

On November 17, *Variety* also devoted choice space to the radio program about the same pipe line, relating how the iron serpent was laid.

Research Representative to Deliver Four Addresses

EUGENE D. MILENER, industrial research representative of the American Gas Association, has made engagements to deliver four addresses this month, with time, place and topics as given below:

January 4—Boston, Mass.; "Developing the Use of Gas for Summer Air Conditioning"; before New England Chapter, American Society of Heating and Ventilating Engineers.

January 8—Boston, Mass.; "Metallurgical Research in the Gas Industry"; before Boston Chapter of the American Society for Steel Treating.

January 26—Syracuse, N. Y.; "Recent Improvements in Metallurgy Resulting from A. G. A. Industrial Gas Research"; before Syracuse Chapter, American Society for Steel Treating.

January 27—Cleveland, O.; "The Application of Gas Heat Energy to Year 'Round Air Conditioning"; before joint-convention American Society of Heating & Ventilating Engineers and the American Society of Refrigerating Engineers.

1931 Proceedings of the Natural Gas Department

$2.50 per Copy

Contains complete discussions and reports presented at the annual convention in Memphis. Greatly increased activity and interest in the development of natural gas has created a real demand for all material and it is imperative that you order early before the limited supply is exhausted. Get them while they last.

◈

AMERICAN GAS ASSOCIATION

420 Lexington Avenue

New York City

Ends 56 Years Service with Gas Company

President Herbert A. Wagner of the Consolidated Gas Electric Light and Power Company of Baltimore presenting the Service Retirement Certificate to George S. Carlyle of that Company who was retired on January 1, 1932 with a continuous service record of 56 years.

GEORGE S. CARLYLE, supervisor of the Mailing Department of the Consolidated Gas Electric Light and Power Company of Baltimore, Baltimore, Md., was retired on January 1, after fifty-six years of continuous service.

On December 21, Mr. Carlyle, who holds the longest service record of any of the Company's employees, was presented with his service retirement certificate by Herbert A. Wagner, president of the Company. The ceremony took place in the president's office.

Mr. Carlyle is being retired at the age of 65. He began work with the Gas Light Company of Baltimore in 1876 when he was 9½ years old. In the first two years he had a part-time job working after school and on Saturdays. In February 1878, when 11 years old, he began his full time occupation as an office boy and messenger.

In 1926 when Mr. Carlyle completed 50 years of active service, the Company presented him with a purse of $500. Today he is the only active man in the Company's service who wears a diamond-studded service badge.

Mr. Carlyle's service with the Gas Light Company of Baltimore began before the first electric company in Baltimore was organized.

Since 1921 Mr. Carlyle has been the Supervisor of the Company's Mailing Department. For 22 years prior to that time he was a day clerk in the Mailing Department.

In presenting the service retirement certificate, President Wagner said:

"The occasion of presenting you with this service Certificate which carries with it a pension for the rest of your life is an outstanding one not only for you but for the company. You have served the company faithfully and efficiently for 56 years and you are still strong and in good health.

"It is a fine and an unusual thing for a man to remain with one concern for 56 years and an accomplishment that few men can equal. You have made a record which you may be proud of. We are proud of you, for it speaks well of this company that it can retain a good man for 56 years without any desire on his part to look for a job elsewhere as he grows in knowledge and ability. The company family ties have been strong for you and happy ones too, I am sure.

"I congratulate you with all my heart and wish to assure you that while you are leaving your work with us you will still be one of us and on the payroll."

E. Paul Young Takes Charge of Sales

E. PAUL YOUNG, a member of the Commercial Section, A. G. A., has been appointed assistant vice-president in Charge of Sales of the Central Public Service Corporation. He has been actively identified with the public utility industry, and his long and successful experience covers many phases of business building through merchandising, commercial and industrial sales promotion. He is a specialist in scientific distribution, market analysis, sales promotion, advertising, sales training, sales management and the analysis of results against costs. Mr. Young's previous connections include work with North American Light & Power Company and its subsidiaries in Illinois, Missouri, Kansas and Iowa; National Public Service Corporation subsidiaries on the Atlantic Seaboard; with properties supervised by Day & Zimmerman, and with subsidiaries of American Equities Corporation in Alabama, South Carolina, Kentucky, Texas and Louisiana. He has also done considerable work on the Pacific Coast.

Mr. Young will work with the property managers in the development of their new business programs, with special emphasis on load building through the sale of merchandise and the addition of commercial and industrial business.

J. R. Lavelle, who has been in the electric operations department of Central Public Service Corporation and who is widely known throughout the properties, will assist Mr. Young.

Public Service Employees Awarded McCarter Medals

McCARTER Medals, awarded through the American Gas Association for the successful application of the Schafer Prone Pressure Method of Resuscitation, were presented December 7 to five men in the employ of the Public Service Electric & Gas Company, Newark, N. J.

Those receiving McCarter Medals were as follows:

James Joyce

James Joyce, an employee of the Public Service Gas Company, Paterson, N. J., who responded to an emergency call, found a man in a cellar with a rubber hose in his mouth, inhaling gas. Mr. Joyce placed the man near an open window, and using the Prone Pressure Method successfully resuscitated him after working for twenty minutes.

Wm. Heuser

Wm. Heuser, an employee of the Public Service Gas Company, Newark, who responded to an emergency call, found that a man had been asphyxiated in a kitchen, where gas range burners were open and not lighted and doors and windows closed. He resuscitated the victim in forty minutes.

Frank Meyer

Frank Meyer, an employee of Public Service Gas Company, East Orange, N. J., was notified that gas was escaping from a store occupied as a Chinese laundry. He broke in the door, found the laundryman lying on the floor unconscious, and successfully resuscitated him in less than ten minutes.

N. Pasquorello

Nicholas Pasquorello, an employee of Public Service Electric Company, Plainfield, found a woman who had attempted to commit suicide by turning on the gas in a kitchen range. Using the Prone Pressure Method, Mr. Pasquorello succeeded in resuscitating her.

J. F. Donovan

John F. Donovan, an employee of Public Service Electric Company, Kearny, resuscitated a woman relative, who was overcome by gas, by the application of the Prone Pressure Method.

National Safety Council President's Medals, were awarded through the Public Service Company to the following men:

George W. Stewart, acting deputy chief of police, Rahway, N. J., assisted by William Kenny.

James Russell, an employee at Trenton, saved a young woman's life, as she was drowning.

Alfred Hunecke, an employee at Jersey City, rescued a drowning man.

John Gustavsen and Ralph Mortensen who rescued a girl from the water.

R. W. Reed

Revardy W. Reed, a foreman in the Gas Service Department of the Empire Gas and Electric Company, Geneva, N. Y., was presented with a McCarter Medal November 13, for saving the life of John Hanson, a laborer, who was overcome by fumes while at work in a tunnel to repair a leak in the high-pressure gas line between Geneva and Waterloo, N. Y.

Business in 1932

Will be good for those that go after it with appealing advertising copy and aggressive merchandising methods.

The American Gas Association will, as usual, be prepared to assist members with their advertising problems, the following services being available for the new year:

A. G. A. Art and Copy, newspaper advertising service—a portfolio of 10 timely advertisements and mats of illustrations monthly, on the fifteenth of the month previous to their use.

Direct Mail service consisting of eight direct mail pieces promoting both special and general uses of gas in the home.

The five-poster Outdoor Advertising Service with a paste-over featuring the A. G. A. Testing Laboratory Approval Seal.

For further particulars address

DIRECTOR OF PUBLICITY AND ADVERTISING

AMERICAN GAS ASSOCIATION

420 Lexington Ave.
NEW YORK, N. Y.

The Clique*

By J. WILLIAM WETTER

WHEN the privilege was extended to me to address this meeting I could not help but make a mental review of my own activities and experiences in connection with association work. After having spent about 16 years in the mining engineering field, I entered the operating branch of coal mining about 12 years ago, which afforded my first opportunity of attending a meeting of our local association and sitting in with the "big boys" of the industry. This was quite a thrilling experience because I had heard a great deal about the various operators who belonged to the association, and knew, or at least thought I knew, that a certain group dominated its affairs, and that a clique was in control of a sizable "roller" which could be "steamed up" at will to flatten out any opposition which might appear upon the horizon, or under it either for that matter. Now I was to have the privilege of observing this clique at first hand, of seeing a small group making the policies and shaping the destinies of a great industry and planning the activities of an important association, while a large majority of the members would sit by either complacently or otherwise, with the full knowledge that the roller was in waiting to reduce them to ribbons at the first sign of resistance.

So I attended what was to be my first association meeting, slipped in quietly, took a back seat, not because I expected to offer any resistance but merely as a measure of self-protection in case the roller became unruly. I listened intently to the deliberations, which were conducted and participated in almost exclusively by the clique, excepting when a vote was taken and the membership voted "yes" or "no" at the suggestion of the clique.

If there was any doubt in my mind before attending this first meeting as to the truth of all the things I had heard, that doubt was entirely removed. A small group was in complete control of the association and directing its affairs; the association was being run by a clique.

After the meeting adjourned I walked out with a friend who also sat on the back seat. I asked him whether he attended the meetings regularly. He replied, "No. What's the use, it's all cut and dried anyway!"

From time to time I attended more of these meetings. Always the same clique was in control. However, in analyzing the individuals composing this small group I found them to be the outstanding operators of the region. They were all busy men and all were aggressive. They had the foresight to see the advantages of association work, the benefits which the industry would derive from it, and notwithstanding the fact that their time was well taken up with their own affairs, they were willing to assume the added responsibilities of association activities.

Since that first meeting I have attended many, many meetings of all manner of organizations, and I have noted with interest that all of them, regardless of whether they were religious, fraternal, social or of a business nature, are always conducted by a clique. The clique is always made up of aggressive men who will work for the success of the organization in which they hold membership, men who are really giving thought to its affairs, and yet they are generally men who are extremely busy and weighted down with other activities.

Early in my association experiences I found that the small group in control was not an exclusive one by any means, and that it was a very simple matter to enter it. The only qualification necessary was to manifest an interest and signify a desire to assist in the work. The clique welcomed this assistance with open arms. Soon came committee assignments, then assignments to various studies and many other opportunities to serve. All of these opportunities offered rich fields of new experiences and unlimited educational advantages. The contact with fellow operators and the exchange of views and ideas between the individual members make for a better understanding of the problems of the industry, and I know of no agency which can be of more assistance in solving these problems than the local association, provided that the individual members will wholeheartedly assist in the work.

* Some remarks made at the 1930 convention of the National Coal Association, as reported in "Domestic Engineering," Nov. 28, 1931.

Instructions for Testing and Repairing Gas Meters

■

Compiled by
GEORGE A. LANE
and
WILLIAM A. CASTOR

■

PUBLISHED BY
AMERICAN GAS ASSOCIATION

■

Twenty-five Cents Per Copy

Personal and Otherwise

Joseph A. Staples, Jr., has been appointed assistant secretary and treasurer of the Oklahoma and Kansas properties of the Empire Public Service Company, which operates the Oklahoma Utilities Company, the Southwest Production Company, the Southwest Pipe Line Company, and the Caney Electric Company.

Robert J. Zeller has been made special refrigerator sales representative for the Central Indiana Gas Company, at Muncie, Ind.

Frank C. Packer, formerly Pacific Coast district manager of Welsbach Company, has been made general sales manager for Welsbach with offices at company headquarters, Gloucester City, N. J.

Percy Black, formerly head of the trade relations department of the Seattle Gas Company, Seattle, Wash., has been appointed manager of the Washington Gas and Electric Company, Everett, Wash.

P. McDonald Biddison, consulting natural gas engineer, has opened an office at 1114 Petroleum Tower, Dallas, Tex. T. K. Knox, consulting petroleum geologist and engineer, is associated with Mr. Biddison who will continue to maintain his office in Bastrop, La.

Robert M. Conway has been appointed special refrigerator sales representative for the Central Indiana Gas Company at Anderson, Ind.

G. B. Sheppard has been made local manager for the Anderson Gas and Utilities Company, Anderson, S. C.

Harry P. Burgwin has been appointed supervisor of refrigerator sales for the Chattanooga Gas Company, Chattanooga, Tenn. Mr. Burgwin will head all refrigerator sales activities.

R. H. Lussky of Guthrie, Okla., formerly gas and electric engineer of the Oklahoma Corporation Commission, has been appointed manager of the Oklahoma properties of the Oklahoma Public Service Corporation.

F. M. Kirby, Wilkes-Barre, Pa., was elected a member of the board of directors of the United Gas Improvement Company recently to fill the vacancy caused by the death of Charles Day.

C. E. Lasher, former manager of the Washington Gas and Electric Company, Everett, Wash., has been made district manager of the company with headquarters at Longview, Wash.

Barney Olson and **Ray Clewell** have been named to act as middle western representatives for the National Radiator Corporation's new gas boiler, with offices in the Peoples Gas Building, Chicago, Ill.

George W. Brinkley, assistant city office manager of the Oklahoma Natural Gas Corporation in Tulsa, has been named manager of the company's El Reno office.

Harvey W. Edmund recently has joined the staff of Standard Management and Operating Corporation as assistant to Vice-President H. L. Farrar, with headquarters in San Francisco, Calif. Mr. Edmund was formerly commercial manager of the Western United Gas and Electric Company and more recently president of the Universal Heater Manufacturing Company.

C. W. Harrington has been appointed industrial engineer of natural gas properties of the Missouri Power and Light Company, Jefferson City and other Missouri towns.

R. Page Crawford has joined the Floyd-Wells Company, manufacturers of Bengal ranges, and will cover Pennsylvania, New Jersey, Delaware and Maryland territory.

Joseph E. Porter, president of the Kansas City Gas and Electric Company, was presented with a novel electric clock in commemoration of the company's fiftieth anniversary and the twenty-fifth anniversary of Mr. Porter's connection with it. The clock is an exact miniature reproduction of the company's new building, executed in wood, carved and finished to match the stone construction of the building.

G. C. Poust, formerly chief engineer of the Kansas Pipe Line and Gas Company at Salina, Kan., has become affiliated with the Iowa-Nebraska Light and Power Company, Lincoln, Nebraska.

Forrest Stewart, of Dowagiac, Mich., has been appointed manager of the Michigan Gas and Electric Company for the territory embracing Paw Paw, Bloomingdale, and Galien branches.

California Oregon Co. Elects Mr. Brewer

C. M. BREWER has been elected president of The California Oregon Power Company and Mountain States Power Company, according to an announcement by John J. O'Brien, president, Standard Gas and Electric Company. Mr. Brewer has been vice-president and general manager of the Mountain States Power Company since 1919 and of The California Oregon Power Company since 1929. The office of president of both companies has been held by Mr. O'Brien, who as president of Byllesby Engineering and Management Corporation and Standard Gas and Electric Company, has served also as president of most of the subsidiary and affiliated companies comprising the Standard Gas and Electric Company system.

Announcement also has been made of the election of M. D. Field as vice-president and treasurer, J. C. Boyle as vice-president in charge of operation, and Glenn L. Jackson as vice-president in charge of sales, of The California Oregon Power Company, and of W. L. Fitzpatrick, vice-president and treasurer, and Z. E. Merrill, vice-president in charge of operation, of Mountain States Power Company.

Geo. B. Evans Resigns As Head of Laclede Co.

The resignation of George B. Evans as president of the Laclede Gas Light Company, St. Louis, Mo., effective January 1, is announced. Mr. Evans, who has held the presidency since 1925, will retire from active business.

He was succeeded by E. P. Gosling, vice-president and general manager of the Laclede Power and Light Company, an affiliated organzation. Mr. Gosling formerly was head of the Newport Electric Corporation, Newport, R. I.

With the exception of two years, Mr. Evans had been with the Laclede since 1903, when, as a construction engineer, he came to St. Louis to erect a holder for a gas tank. He joined the Laclede organization, becoming successively plant superintendent, general superintendent, chief engineer and vice-president and general manager.

In 1925, he was made president to succeed Charles L. Holman, who resigned.

A. J. Peters Passes Away at New York Home

A. J. PETERS, general sales manager of the Consolidated Gas Company of New York, and chairman of the Industrial Gas Section of the American Gas Association, died suddenly at his home in Flushing, Long Island, on December 25, 1931.

Mr. Peters was born in Philadelphia, Pa., in 1891. From 1909 to 1919 he was engaged in railroad work, and during the World War was United States railroad representative at Camp Dix, N. J. He entered the employ of the Consolidated Gas Company in 1920 as a ledger clerk. In 1922 he was made commercial manager of the New York and Queens Gas Company, and in 1925 was appointed assistant manager of the Consolidated General Office Appliance Division. In February, 1926, Mr. Peters was made manager of the Industrial Division of the company, and in September, 1927, he assumed the duties of assistant general sales manager. Early in 1930 he was made general sales manager.

Mr. Peters was an active member of the American Gas Association, having served on important committees of the Industrial Gas and the Commercial Sections. At the 1931 Convention in Atlantic City he was elected chairman of the Industrial Section.

Industrial Gas Section

W. F. MILLER, Chairman — C. W. BERGHORN, Secretary

Industrial Section's 1932 Convention Program Is Outlined

THAT the 1932 season promises to be a most interesting one is evidenced by the unusual reports submitted by the Industrial Section Program Committee for discussion at the November 17 meeting of the Industrial Section Managing Committee.

The committee suggested a novel change for the industrial meetings at the 1932 A. G. A. convention. This change is designed to make the meetings more interesting and more valuable to the largest possible number of people.

It was brought out by the discussion that such meetings had certain educational and informative values, and that in general they should serve to help industrial gas men by contact and by exchange of experiences and ideas.

To preserve the inspirational and educational character of the meetings, it is proposed that one day of the 1932 sessions is to be devoted to papers along lines which have not yet been decided upon, but which will be of a general nature, involving problems such as industrial rates, industrial advertising, industrial department management, and perhaps from the viewpoint of industry towards gas as a fuel.

The second day's meetings, on the other hand, are to be divided into a number of small groups or round tables, which will be informal in character. Each of them will be led by an industrial engineer who has contributed in an outstanding manner toward the development of the particular subject during recent years. In this way every visitor at the convention can pick out some subject particularly near to his local problem, and obtain the most up-to-date picture of development, research and the future possibilities.

The committee wishes to ask for the assistance of industrial engineers throughout the industry in suggesting topics for discussion which would be interesting to a representative group, and for which competent round-table leaders would be available. The committee would also be glad to hear from volunteers who would be glad to lead the discussion.

This report is printed here in order to afford opportunity to the industrial man to express himself on the most important problems, so that the A. G. A. Industrial Section meetings at the convention can be made to yield the utmost value to the individual and the gas company sending him.

W. F. Miller, vice-chairman of the Industrial Gas Section has been named chairman of the Program Committee and suggestions should be addressed to him at Association Headquarters.

Industrial Section's Publicity Work Covers Wide Scope

AT a recent meeting of the Managing Committee of the Industrial Gas Section, H. O. Andrew, the chairman of the Section's Publicity Committee, outlined the purposes and program of his committee and which the Managing Committee approved.

The Publicity Committee's main function is to have articles published in the technical press descriptive of the applications of gas in industrial heating. This material is prepared solely with the end in view of promoting the use of gas in all industry and to provide industrial gas engineers with data and information. The direct value that such engineers may receive from this work is only incidental to the main objective of the committee. It is natural to expect that sales resistance will be lessened, acceptance of gas as a fuel hastened and in some cases direct sales obtained as a result of this publicity work.

At the present time the publicity realized is obtained in the following ways:

1. A paid publicity man visits representative industrial plants and writes semi-technical articles descriptive of gas usage in such plants. These articles with illustrations are then submitted without cost to the various technical papers interested in the particular process in question.

2. Articles from the Industrial Gas publication are submitted to other publications for reprinting. Cuts or photographs are furnished free by the *Industrial Gas* magazine.

3. Miscellaneous (a) copies of the Consolidated Gas Company of New York's leaflet—*Better Heat*—is distributed to a broad list of publications (b) special articles are written on specific requested subjects, inquiries are answered, etc., etc.

The committee plans this year to follow the present plan of procedure and in addition to send out single photographs of outstanding installations accompanied by only a caption—this way allowing the use of publicity material for fillers which is effective publicity and at the same time easier and therefore more apt to be used than complete articles. The committee is also working on an additional activity in the form of a monthly clip sheet to be sent to newspapers and general mediums such as *Forbes, Literary Digest,* etc., as well as to technical publications. This clip sheet will make a short abstract each month of a dozen or more articles in an interesting and newsy manner from all the publications in the gas field or other sources of information available such as results of recent research, etc. Such an activity should greatly broaden the scope of the publicity work.

In all this work, particularly regarding suggestions as to where our publicity man should go to obtain outstanding stories, the committee will most heartily welcome the cooperation and suggestions of the entire gas fraternity.

For the industry's information it is planned to list in future issues of the MONTHLY the subject and medium publishing various industrial articles. In this way industrial engineers will be able to show present and prospective customers articles from the different engineering publications covering a wide variety of utilization applications.

A. S. M. E. Members Guests of Consolidated Gas Co.

ONE hundred members of the American Society of Mechanical Engineers were the guests of the Consolidated Gas Company of New York on an inspection tour of the Hunts Point Manufacturing Plant, during the week of the Society's annual convention, held in New York early in December.

The visitors were formed into small groups, and, under the guidance of gas company engineers, they made a complete inspection trip through the plant, which occupies about 186 acres of land in the lower Bronx section of New York City. The tour included the coke ovens, which

have a capacity of 30,000,000 cu.ft. daily, as well as the water gas plant, which is now under construction.

The inspection trip was under the general direction of N. T. Sellman, assistant secretary of the Consolidated Gas Company.

All who made the tour expressed their thanks to the company for the privileges extended. It was the concensus of the visitors that an "open house" at a gas plant was particularly fitting for this convention, since it marked the election of C. N. Lauer, of the Philadelphia Gas Works, to the presidency of the society.

Supplementary Industrial Gas Bibliography

Important new articles on use of gas in industrial work reported in the magazines listed below:

GENERAL DATA—A

Combustion—A-III

Western Gas... Design of Gas Burners by the Use of Fundamental Flow Formulae ..... Aug. 1931 p. 87

(Summary of general formulae with suggested standards and simplified equations for practical application.)

Furnace Design—A-V

Journal of the American Ceramic Society. Application of the Down-Draft Principle to Tunnel Kilns ..... Aug. 1931 p. 572

(Down draft produces even heat distribution in periodic and chamber kilns.)

Miscellaneous—A-XIV

Combustion.... Natural Gas for Industrial Boiler Plants..... Aug. 1931 p. 39

(Economics of natural gas, description of installations.)

HEAT TREATMENT OF FERROUS METALS—B

Malleableizing—B-VIII

Industrial Gas.. Developing the Short-Cycle Anneal ..... Sept. 1931 p. 9

(Reduced heating time due to maintenance of correct temperatures.)

Miscellaneous—B-XI

Metal Progress.. What is a Neutral Atmosphere? ..... Sept. 1931 p. 74

(Composition of atmosphere neutral to high speed steel at 2300° F.)

METAL MELTING—D

Brass and Bronze—D-I

Foundry..... Melts Bronze in Crucible.... Sept. 15, 1931 p. 38

(Natural gas consumption, total cost of melting.)

Aluminum—D-VII

Industrial Gas.. Iron Pot Holding Furnace in Permanent Mould Casting. Sept. 1931 p. 7

(Tests to determine operating costs on oil, natural gas, electricity.)

Miscellaneous—D-XII

Gas Age-Record .. Luminous Flame Burner Suitable for Natural Gas in Open Hearth and Similar Operations ..... Mar. 7, 1931 p. 351

INDUSTRIAL STEAM APPLICATIONS—E

Gas Age-Record .. Natural Gas as Fuel in Power Plants ..... Aug. 22 and 29, 1931

(Combustion analyses, burners, operating charts.) p. 258 and 311

Gas Age-Record .. Unusual Natural Gas-Fired Small Boiler Installation... Sept. 5, 1931 p. 349

(Special problem of converting small Scotch-Marine Boiler.)

Natural Gas... Conversion Factors..... Aug. 1931 p. 6

(Cost of steam generation with various fuels.)

Transactions of the A.S.M.E.. Relative Economy of Pulverized Coal, Oil and Gas as Boiler Plant Fuels..... FSP 52-11

(Cost of making steam. Influence of each fuel on over-all plant performance and economy.)

LOW TEMPERATURE BAKING AND DRYING—I

Miscellaneous—I-V

Das Gas und Wasserfach .. Waschetrocknung mit Gas (Laundry Drying with Gas.) ..... Vol. 47 (1931)

(Exhaustive study of mangling and drying operations.) p. 1084

Heating, Piping & Air Conditioning ..... Charts Show Fundamentals of the Drying Process..... Dec. 1931 p. 1017

(Effect of temperature and pressure in drying operations.)

CERAMICS—J

Glass—J-I

Chemical & Metallurgical Engineering ... Advantages of Electric Heating Applied to Glass Lehrs. July 1931 p. 400

(Operating data and some unit costs.)

Brick—J-II

U. S. Bureau of Mines Report of Investigations 3122—Tests on Brick Kilns Fired with a Stoker.

(Coal consumption, heat distribution, control of operation.)

Home Service Committee

JESSIE McQUEEN, Secretary

Year's Work Outlined at Cleveland Meeting

THE first meeting of the American Gas Association Home Service Committee was held in Cleveland, Ohio, December 11, with the chairman, Miss Hulda Ungericht, of the Columbus Gas & Fuel Company presiding.

Proposed revision of the home service manual was discussed. One of the four suggested booklets, *Home Calls* was finished last year. Three other booklets are nearing completion and will be ready for distribution this year, it is expected. The other booklets are: Aims, Organization and Publicity of Home Service, Inside Activities and Outside Activities.

Appreciating that home service now has full justification in the utility program, the efforts of the committee this year are toward a study of ways and means of tying in more closely with the general activities of the companies maintaining home service departments.

In 1927 a three-year plan of work was inaugurated by the Home Service Committee and was completed as far as possible in 1930. Another three-year program was outlined as follows:

I. Company Development

a. Interdepartmental relations—suggested plans whereby home service can be better known and used by other departments in a company—utilization, service, sales and advertising.

b. Innercompany education—a study of practices, policies and rates in order to better answer questions of customers in home contact work. Employee education program.

II. Commercial Activities

a. Obtain permission to cooperate with sectional activities of domestic cookery, refrigeration, water heating and house heating.

b. Devise means to work in with trade-dealer cooperation. Possibly make a study of ways in which this has been done in some companies.

III. Extended Service to Customers

a. How home service can meet changing business conditions.

IV. Educational Courses

a. Continue sponsoring the three educational courses on domestic gas appliances at Columbia and New York Universities and the A. G. A. Testing Laboratory. Also further cooperation with equipment courses in schools and colleges.

V. Research

F. R. Wright, of the A. G. A. Laboratory to outline for home service women the research being done and its application to the home.

VI. Publicity

Selection of home service activities best to publicize in trade magazines. Series of letter to executives on home service activities.

VII. Regional Meetings

a. Group meetings of home service directors.

b. Participation in regional sales conferences.

Those present at the meeting were:

Hulda Ungericht, *chairman,* Columbus Gas & Fuel Co., Columbus, Ohio; Jessie McQueen, secretary, American Gas Association, New York, N. Y.; Karen Fladoes, Equitable Gas Co., Pittsburgh, Pa.; Ruth Soule, Brooklyn Union Gas Co., Brooklyn, N. Y.; Mrs. Ella Lambert, Milwaukee Gas Light Co., Milwaukee, Wis.; Althea Lepper, Consolidated Gas Co. of New York, N. Y. C.; P. D. Warren, Peoples Gas Light & Coke Co., Chicago, Ill.; Mrs. Lyda Flanders, Worcester Gas Light Co., Worcester, Mass.; Dorothy Shank, American Stove Co., 4301 Perkins Ave., Cleveland, Ohio; K. M. Clark, Ruud Manufacturing Co., 2934 Smallman St., Pittsburgh, Pa.; G. B. Shawn, B-Line Boiler Co., E. 131st St. & Taft Ave., Cleveland, Ohio; H. S. Boyle, Electrolux Refrigerator Sales, Inc., Evansville, Ind., and F. R. Wright, A. G. A. Laboratory, Cleveland, Ohio.

At luncheon, the members of the group were guests of the Testing Laboratory.

Course in Domestic Gas Appliances at New York University

A NEW course in equipment was instituted this semester at New York University under the direction of Mrs. Frieda Winning, head of the Home Economics Department. The first six lessons were devoted to a study of gas equipment. Lecture and laboratory work was planned by Mrs. Winning, T. H. Schleuning, service engineer of the Consolidated Gas Company of New York, and Ruth Soule, home service director of the Brooklyn Union Gas Company and chairman of the Home Service Educational Committee.

Sixteen students attended the lectures, and devoted additional time to laboratory work which dealt with meter reading, burner adjustments, calibration of oven heat controls, and the use and operation of laundry appliances, refrigerators, and water heaters.

A. G. A. Representatives Attend Home Conference

REPRESENTATIVES of the American Gas Association, engineers, manufacturers of gas appliances and home service representatives were among the 3,500 people who attended President Hoover's conference on home building and home ownership, which took place in Washington, D. C., early last December.

Representatives from Association headquarters included Jessie McQueen, home service counsellor, and C. George Segeler, technical editor.

Are You Wearing the A. G. A. Pin?

These small emblems, designed in blue and gold, are unusually attractive and durable. Price $2.

MAIL THE COUPON

AMERICAN GAS ASSOCIATION,
420 Lexington Avenue,
New York, N. Y.

Here's my check for $2. Please send me an A. G. A. Membership Pin.

Name .....

Address .....

City .....

Publicity and Advertising Section

WILLIAM H. HODGE, Chairman ALLYN B. TUNIS, Secretary HENRY OBERMEYER, Vice-Chairman

Advertising for Future Sales*

Paul Renshaw

By PAUL RENSHAW

Director, Public Relations, Memphis Power & Light Co.

NATURAL Gas was introduced into our system's mains the first of January, 1929—nearly three years ago. Prior to that time we had supplied manufactured gas.

With this change in the type of the fuel, we enlarged our advertising program, taking on outdoor boards, street car cards, and screen advertising in neighborhood theatres. Specifically I may say that, in our city of a bit more than 250,000 population, we employ half a showing, or 32 outdoor boards; a full showing of car cards, one in each street car; and run 50-foot motion pictures in one-half of the suburban show houses each week, alternating this showing in the other half the following week.

At the same time that those media were added, we began the development of a direct mail campaign for house heating which we have used consistently, and likewise greatly increased our newspaper advertising, which we regard as the backbone of all our advertising. We have used radio but little.

The principal part of our advertising has been directed to domestic consumers. This is because of the larger numerical market. The emphasis in the advertising to this group of consumers has been upon Natural Gas as a fuel for house heating. To reach this broad customer field, the various media have been deemed necessary.

For developing the limited field of commercial and industrial users we have done but little general advertising. About the time we were preparing our system for converting to natural gas, we inserted a few advertisements intended to appeal to this class of users; but we considered that with a maximum of but a few hundred "prospects" it was an economic loss to advertise so broadly. Hence this load has been built up almost entirely by direct sales effort, supplemented by direct mail enclosures.

Incidentally, our sales forces for domestic heating are separately organized from the force soliciting the domestic business. Commercial and industrial heating engineers are employed for this type of business, and specially trained house heating salesmen are employed in the domestic field.

*Address before Second Southwest Natural Gas Sales Conference, Hot Springs, Ark., Nov. 16, 1931.

As those of you who are students of advertising know, the use of outdoor boards and car cards is limited to "reminder advertising." The brevity of copy prevents telling a story. This restricts their message to a quickly stated suggestion of your product. For example, we may suggest an advantage in using gas with this thought: "Save Trips to the Basement with Natural Gas for House Heating." One of our boards that we have frequently used, with slightly changed wording, invites the customer to "Enjoy Complete Heating Service with Natural Gas." It is desirable to have one or two words dominate such bulletins. We can take a tip from the national advertisers who use outdoor boards extensively, and observe how they spread one or two words across a whole board. For example, the Coca Cola Company frequently is satisfied with the brief message—"Drink Coca Cola; delicious and refreshing." Or the tobacco company which says: "Smoke Chesterfields. They Satisfy." In nearly every case, the word "Coca Cola" or "Chesterfield" dominates the sign. In our advertising of this type, we let the two words "Natural Gas" dominate the board or the car card. Incidentally, we have developed a design in hand-drawn letters; and this is standard for us, both in bulletin and in newspaper advertisements.

On account of the prevalence in use of the word "Gas" in connection with Gasoline and with manufactured gas, our design was created to give as much or more emphasis to the word "Natural" as to the word "Gas" in order to create its own identity in the mind of the public with something new and specifically related to convenience in house heating.

In our screen advertising we try to tell a quick story with pictures. Lately, also, we have been using sound effect—with someone talking our message as the scenes appear on the screen. About four views, with explanations, are all we can get into 50 ft. of reel. These are usually home scenes, exemplifying the comfort and convenience in using natural gas for heating. Sometimes a couple may be shown entering the home, and the man, laying aside his top coat, will light a radiant-fire heater, remarking upon the quick warmth that instantly flames forth, contrasting this with the difficult task of former years in building a fire with crude fuels. At other times, perhaps, a woman may be shown explaining to visiting friends the working of a thermostat in automatically governing the fire in the furnace that keeps the temperature constant in the home. Actual photographic scenes accompany the word explanations. The story is as varied as the inventive genius of the advertising writer will make it.

At the time of our preparations for turning Natural Gas into our system, we made a survey of the city to determine the number of homes that had individual heating systems; this survey revealing approximately 10,000. We carded these addresses, and have used them as the basis for a list to which we have regularly sent mailing pieces on house heating. Specimens of these folders are in an exhibit here. We have developed three series of these folders, one for each season during the past three years. Nine pieces constituted the series the first year, in 1929; seven pieces in 1930; and this year we have sent out five pieces. Mailings have been made periodically during the spring, summer and early fall months—which we have found to be the most active season for the sale of conversion burners for heating systems. Incidentally I may say that we do not handle designed-for-gas burners; but leave the sale of this type of equipment to heating contractors. Our sales of conversion burners now approximate 1,800; and reports from heating contractors indicate the sale of approximately 800 designed-for-gas boilers, making a total of about 2,600 homes in our city that now use natural gas in heating plants. In addition to those, our sales records indicate that there are approximately 2,000 more homes heated with radiant-fire heaters and heaters of the circulating type. In this connection the statement will be interesting to you that practically every important office building in the downtown area now uses natural gas for central heating. There are only two that are not so heated. We have likewise succeeded in having natural gas installed in a large number of industrial plants as the heating and factory fuel. As indicated elsewhere, however, this increased load was developed principally through direct selling by commercial and industrial heating engineers of our commercial sales department.

As indicated above, we regard the newspapers as the cornerstone of our advertising structure. The outdoor boards, street car cards, direct mail and screen messages, are considered as supplementary. It is in the newspapers that we can most completely tell our story of the comforts, convenience, and other advantages in using natural gas. Here we can take the space, and use the words necessary to develop the

"reasons why" for the use of Gas. Of course, pictures and illustrations help to visualize the story.

I should like to emphasize the thought that the appearance of an advertisement is important. People read newspapers rapidly. We must catch them, figuratively, as they run. Hence the importance of making advertisements attractive, typographically, and with illustrations. In order to get tailored channels of white space, and the general ensemble of type effect that appeals, we have our newspaper advertisements set in a shop that specializes in this kind of work—and send the advertisement in its finished form to the newspaper. It is only necessary then for a mat to be made. We count the extra cost of this as a good investment in gaining reader attention.

The appeal in advertising, it must be remembered, can be only as varied as the creative genius of those who conceive it. Indeed, here is where art enters into advertising. It is easy to find a typographer who can set type effectively. It is also practical to find good art work for illustrations. But the IDEA in an advertisement, and its development, require a bit of genius—that is, if the advertising is to be lifted above the commonplace. And, it may be added, it is easier to develop an IDEA with appropriate words than it usually is to *originate* the idea. Hence, again, the appeal in Advertising is commensurate with the IDEA it suggests or develops.

Of course, it is desirable to let the idea always rest upon a sales appeal; and, in our judgment, it is valuable to couple the idea, or interweave it with the advertising, regularly. In our advertising we have hit upon the thought of "Natural Gas, more than a fuel—a complete heating service"; and we try to weave that idea into each displayed message. Of course, different treatment is necessary; but in developing varied treatment, we are swinging around that central thought as our anchor. Whatever the catch-line for our display head; or whatever the idea that may be portrayed in the illustration, we try to weave it into the message of natural gas as a complete heating service.

A few specimens of our newspaper advertisements featuring this idea are offered to indicate our effort in treating the same thought in different ways. In one that was used late in the summer the display line reads: "When winter comes, will you, too, have 'Heat at your finger tips?'" The theme of the copy is that all effort in house heating with natural gas is confined to a fingertip movement in adjusting a thermostat to the degree of heat that is wanted for the house. Aside from this small attention, it states, natural gas heats the home without care or attention throughout the winter season. Then, in subordinated display, the message we want to get dinned into public consciousness is repeated in the words, "Natural Gas is more than a fuel—a complete heating service." Another advertisement, which was intended to feature the idea that Gas Heat is Modern, employed two illustrations contrasting the laborious method of making fires with sticks, and the effortless method, simply by adjusting a thermostat. The copy in this brought out the thought that progress in all things means a change from old ways to something newer and better . . . as continuous as time; that for thousands of years man has, by fire-building and fire-tending, been accustomed to protect himself against winter's icy blasts, and that during the time he had performed the tasks as accepted custom—But change, progress, come with natural gas, which is piped like water unobtrusively into the home, and is there, available always on demand . . . clean, dustless, smokeless . . . and so automatic in control that it makes house heating carefree—changing old laborious tasks to less actual effort than answering a telephone call. And: "A complete heating service is repeated." Three or four advertisements featuring the idea that "the old order changeth giving place to the new" were used; each emphasizing that natural gas heat, always a complete heating service, is as far ahead of methods in heating with crude fuels, as the electric light is ahead of the kerosene lamp; as the knitting machine is ahead of the spinning wheel; or the automobile ahead of the horse and buggy as a means of travel.

Quite naturally the dealers in crude fuels have sought to stress the idea that gas heating is more expensive to users than the fuels they sell. As a general policy, we have entirely ignored all advertising they have done. In fact, we have never specifically noticed one. But, in order to combat the thought that gas costs more, we have used a few display advertisements. One of these, used recently, is headed: "Saving WHAT?" Under this caption is a generous illustration, showing a basement scene, where the man of the house is confronted with the task of chopping kindling, shoveling the fuel, and otherwise dealing with the annoyances incident to fire-building and furnace-tending. The copy suggestion inquires: "What are you saving when you heat your home this way?" Then the injunction: "Stop and consider the energy wasted—in fuel-handling, in ash-disposal, in furnace care; and in the thousands of steps taken to and from the basement, together with the loss of time." And follows the query: "Are you really 'saving' anything when you add the cost of this wasted energy and loss of time to the fuel bill?" Our real message, of course, is: "Install natural gas, control it with your finger tips, and forget all your furnace and heating cares . . . for it affords 'complete heating service.'"

May I suggest that we, as advertising writers, need to give our imaginations more freedom! That we need to envision, in an even broader way, the services our product—natural gas—renders its users—the burdens it lifts from the backs of housewives, by making their tasks lighter, and doing their work better! The flash of the flame, and the instant heat that come from gas; the measured control that may always be exercised, merely by the opening or closing of a valve; the cleanliness and convenience it affords in cooking, water-heating, house heating, and numerous other uses, relieve home makers from unnecessary steps, unnecessary labor, unnecessary cares in a way that deserves to stir our imaginations for graphic presentations. It is literally our fault if we do not impress woman everywhere that she need not be chained to the treadmill of routine home work that our product, and the numerous appliances which consume it, will release her from. Man, long ago, discarded "the treadmill method" of doing things as too harsh even for his mill and office helpers, and today his factory or office are converted into modern places for making things and transacting his affairs. His wife deserves the same consideration; and perhaps it is our job to tell her that she should give higher consideration to herself and her position. As we stir people's imaginations, we will make them want our product, in its varied and multiplied uses. And, as we make people want the product, we make sales easier for our sales forces. There is a French expression, "Sans Souci," meaning "without care," which seems to suggest the idea of a slogan that appropriately applies to the bringing of so many added comforts and conveniences into the home through the manifold uses of gas—for which the user may be forced to give neither a care nor a thought! It is our story to tell, based upon the appeal to their larger comfort and well-being. It is literally true that the use of gas in the home will enthrone woman as a ruler where, in many ways, she has so long slaved!

Advertising is so closely interwoven with merchandising that, particularly at this time when utilities are striving to have their policies more clearly understood, some statement relating to our efforts along this line seem appropriate as a part of this paper.

First, let it be understood that utilities have an obligation to merchandise the appliances that consume their product. The sale of these appliances by us is of benefit to the public, because it makes the conveniences of gas service more generally available. Primarily we are selling a service—not a commodity that can be weighed by the pound. But before we can sell our service, there must first be sold an appliance that makes possible the use of the service—for some appliance is indispensable in the use of gas. It is in the public's interest that standard appliances have been sold by utilities, at fair prices, and on terms that have made it possible for thousands of customers to enjoy the conveniences and comforts of gas service which they would otherwise have been denied.

Consistent advertising on the part of utilities has created a wider public acceptance of appliances as they have been developed and perfected; and, largely as a result of this promotional work, other dealers are enjoying an excellent business from their sale.

It needs to be emphasized by us, however—and some of our dealer friends do

not seem to have learned this—that we want them to continue to sell these appliances; and we want them to be able to do it profitably. The truth is that utilities benefit by the greatest possible distribution and use of appliances on their lines; and they welcome and encourage the sale of them by other dealers.

Best policy for the utilities dictates that they stimulate sale of good appliances by other merchants and dealers; and that a cordial relationship with these dealers be developed.

Leadership in promoting friendly relations, however, devolves upon the utilities. We owe it to ourselves and to the dealers to have clear understandings that will promote larger business and better accord.

Incidentally, we deny that our methods of merchandising are unfair; but we insist that misunderstandings can best be settled by cooperation which utilities welcome with dealers. Legislation directed against utilities, or any particular class, would be discriminatory and therefore unjust. And, legislation prohibiting any class from selling appliances would not relieve possible future misunderstandings between those who continued to merchandise them.

Changing times require new methods in merchandising. And fixed laws would prohibit flexibility in adapting needs to merchandising.

In our own company, in order to cultivate a broader understanding with the dealers of our community, we have been pursuing a program of definite dealer relationships.

Our first step in this program was through our advertising. In an advertisement of practically full page, we displayed the invitation, "Buy appliances from your Dealer or this Company."

We followed that advertisement with a series of ads on gas water heaters; and later a series on other gas burning appliances; and in each series there was prominently displayed the same invitation, "Buy Appliances from your Dealer," this appearing over our signature.

Following the insertion of the first advertisement along this line the merchandise manager, together with the advertising manager, personally visited the principal dealers in gas appliances throughout our city. Calls were made on the department stores, furniture dealers and hardware dealers; and in each case a full statement of our policies was made to them. It is worth remarking and emphasizing that during these conversations many misunderstandings on their part, some relating to very incidental matters concerning our policies, were corrected. For example, some of them expressed the belief that it was our policy to cut-off our service for non-payment of merchandise bill—which of course was a misunderstanding. To our surprise we found that there were other misunderstandings quite as definite on their part; and of course the visits and discussions with them enabled our company to eliminate many of these.

In addition to our consistent invitation in the newspaper advertisements for the public to patronize dealers, we have also appropriated the use of some of our outdoor boards for this same purpose. We have borrowed the idea of the Brooklyn Union Gas Company for this, and are using 20 boards for each of the six posters in their series, featuring the idea of "Gas the Great American Servant," and the symbol of the dealer selling approved appliances.

In our newspaper advertising also we have adapted our terms on appliances to a basis that is agreeable to the dealers, as determined upon in the conversations at the time of our visits with them.

As a further measure in developing a more thorough understanding between the dealers in gas appliances and our company, and to promote cordial relations that are mutually beneficial, we have produced a definite written statement on merchandising policy which the dealers have been apprised of, and to which we are rigidly adhering in our advertising as well as our selling. This statement is in two parts; Part A states that we are in accord with the statement of "Merchandise Procedure," as approved by the National Association, which sets forth nine points that are familiar to most utility men.

Part B further avows our sincere desire to help promote the sale of appliances, whether a customer may buy from our company or any other dealer; and to this end gives assurance on these points:

1. To maintain "list prices" on merchandise, unless some special event arises, in which case we are willing to advise dealers.
2. Not to give excessive trade-in allowances.
3. To adapt our terms, so far as reasonable, to a basis that is practicable for other dealers.
4. To do promotional advertising, that shall invite the public to buy standard appliances either from ourselves or the dealer of their choice.
5. To continue to counsel our sales forces to refrain from remarks that may possibly be interpreted by prospects as derogatory to any dealer's merchandise.
6. To go to any reasonable lengths to make our sales organization the "allies" to all dealers.
7. To give the same measure of "service" on all appliances, whether purchased from us, or from a dealer. (In this connection we emphasize the clear distinction between "service" and "repairs.")
8. To make "connections" on gas appliances as readily and promptly on appliances purchased from other dealers as on those sold by us.
9. To make extensions of gas mains as readily for customers who buy from other dealers as from us.
10. To cooperate with dealers as far as we reasonably can both in promoting mutually profitable merchandising activities and in satisfactorily adjusting any and every particular incident that may arise to affect our relations.

Supplementary to all this, we have issued what we term a "Code of Ethics for Employees" which pledges the individual in our organization to those principles of conduct which support the fundamental points of our institutions policy, and treat the dealer in gas appliances as an ally to our organization. Here is the pledge:

1. I will regard other dealers who are selling standard gas appliances as our allies in promoting the sales of these appliances, and I will treat their representatives as our associates in making load-building activities successful.
2. As an evidence of my personal friendly feeling, and my desire to see every other legitimate dealer succeed, I will refrain from doing these things:
   "Knocking" the merchandise they sell.
   Leaving the impression that their product is not standard or is inferior.
   Inferring that repairs or replacements can be secured.
   Minimizing the dealer's ability to service the equipment he sells.
   Intimating that the dealer will probably cease handling this equipment.
   Cutting prices or extending terms beyond those regularly established.
   Making remarks not complimentary of merchandise the customer has purchased of others, or has on trial, or mentions being interested in.
   Condemning faulty dealer-sold equipment to the customer; but, purely as a measure of service to customers, will advise the dealer of defects or conditions that might cause trouble, and so give them an opportunity to correct faulty conditions.
3. I acknowledge that my interests are best served by fair dealings, and I will endeavor at all times to accord my words and deeds with the policies of my company, in the high aim to promote friendly relations with every dealer and every individual customer of the company.

This mention of our cooperative policy with dealers is made because we feel that continued successful merchandising, if it is to produce largest returns, should follow the policy of promoting sales through every type of responsible dealer. It is by the activity of the utility that a consciousness is created and maintained in a community for the use of gas service. It is through their leadership and promotional activity that the advertising and sales effort of the dealers, as well as themselves, can be made most effective.

The rendering of service which we supply is a high privilege. In the advertising of it we who are identified with this phase of the work have the opportunity to appeal to those basic desires in the human heart for comfort, conveniences and real luxuries that are available at small cost with its generous use.

Testing Laboratory
R. M. CONNER, Director
MANAGING COMMITTEE
J. S. DeHART, Jr., Chairman N. T. SELLMAN, Secretary

Requirements Research and Committee Activities

A. G. A. Approval Requirements for Hotel and Restaurant Ranges and for Garage Heaters, which have been in the course of preparation for several months, were approved for submission to the industry by the A. G. A. Approval Requirements Committee (A. S. A. Sectional Committee, Project Z-21) at its meeting in Cleveland on December 8 and 9. It is hoped that these requirements will be given prompt and careful consideration by all those interested in, or connected with gas utilization problems. Both the interested subcommittees and the A. G. A. Approval Requirements Committee welcome constructive criticism and suggestions tending to improve or strengthen the specifications for gas appliances.

Adoption of A. G. A. Requirements as American Standards

The revised A. G. A. Approval Requirements for Gas Ranges, which now include approval requirements for ranges designed to utilize propane and butane-air gases, were submitted to the American Standards Association by the Sectional Committee (A. G. A. Approval Requirements Committee) for adoption as American Standards. The A. G. A. Requirements for Installation of Conversion Burners in House and Water Heating Appliances are also in the hands of the American Standards Association.

Gas Ranges

Several investigations are under way at the Laboratory at the instance of the committees looking toward a number of important revisions to the gas range requirements in 1932. Among these are further studies on baking or other oven heat distribution tests. Requirements designed to insure proper oven baking characteristics are being worked out in cooperation with the A. G. A. Home Service Committee and the American Home Economics Association. Extensive research has already been conducted on insulated oven gas ranges and steps are now being taken to investigate a number of other ranges, the oven insulating characteristics of which were considered satisfactory by various members of the Home Service Committee.

Water Heaters

Several investigations relating to the Approval Requirements for Gas Water Heaters are now under way or will be started within the near future. An investigation of the various factors affecting the operation of thermostatic pilots has recently been completed. As a result of this study it is probable that a number of changes will be made in the requirements covering these devices.

At the request of the Committee, arrangements are being made to carry out research necessary to develop A. G. A. Approval Requirements for Water Heaters designed to utilize propane and butane-air gases.

The Water Heater Committee also has under consideration the matter of drafting a requirement for water heater service efficiency.

Central Heating Gas Appliances

An exhaustive research investigation of the various factors affecting efficiencies of floor furnaces recently was made by the Laboratory for the Sub-Committee on Central Heating Gas Appliances. This included a study of the effects of various methods of test upon the results secured, the design and location of cold air returns, and the relationship between the area of the minimum warm air outlet and the minimum cold air intake passages. Several other minor investigations are under way relating to various sections of the A. G. A. Approval Requirements for Central Heating Gas Appliances. A meeting of the Sub-Committee on Central Heating Gas Appliances is tentatively scheduled to be held in January.

Space Heaters

Research, having for its aim the development of approval requirements for space heaters designed for use with propane (bottled gases) and butane-air, will also be carried out during the course of the next few months.

For several months an extensive investigation has been under way to develop an equitable method for rating gas steam radiators. Some of this work was carried on by Laboratory engineers, at Purdue University, where a constant temperature room was available. It is expected that this investigation will be completed shortly after the first of the new year.

Gas Refrigerators

A tentative set of requirements for gas refrigerators was completed by the refrigerator sub-committee at its last meeting. These were submitted to the Laboratory for investigation to determine their feasibility. Samples of domestic gas refrigerators are being secured by the Laboratory, and their construction and performance will be thoroughly studied in the light of the committee's recommendations.

Gas Tubing

There has been a growing demand during the past few years for A. G. A. approval requirements for semi-rigid tubing. This is particularly true in the South and Southwest where tubing is more generally used for connecting space heaters and other appliances to the gas supply.

At its recent meeting, the A. G. A. Approval Requirements Committee instructed the Laboratory to conduct the necessary research and submit a proposed set of approval requirements for tubing of this nature.

The effects of high altitudes upon the performance of gas appliances is a subject which has been under consideration by the Laboratory and the various Approval Requirements Committees for some time. Upon instructions from the A. G. A. Approval Requirements Committee, it is planned to make a thorough investigation of this subject during the present year.

Gas Company Furnishes Weather Report

ONE large Oklahoma daily newspaper and one of the State's leading radio stations are using daily weather reports furnished by the Oklahoma Natural Gas Corporation, while two more newspapers are expected to accept the service soon.

The Tulsa Tribune, an evening publication, prints on its front page a chart showing the rise and fall of the temperature from noon of the preceding day until noon on the day of publication. *The Oklahoma News,* an Oklahoma City evening newspaper, may do the same while arrangements are underway to give the same service to the *Democrat-News* in Sapulpa.

The sensitive Oklahoma Natural recorder is checked each day in time to rush the charted readings to the newspaper.

Radio station KVOO, in Tulsa, broadcasts at 8 o'clock each morning the temperature at that time and also the minimum temperature of the night.

Accounting Section

Wm. A. DOERING, Chairman — H. W. HARTMAN, Secretary — J. M. ROBERTS, Vice-Chairman

Chairmen of Committees Are Appointed

NEWLY appointed members of the Accounting Section Managing Committee met at Association headquarters, November 17, 1931, when the following chairmen of committees were appointed:

Advisory Committee—J. I. Blanchfield, Brooklyn Union Gas Company, Brooklyn, N. Y.

Nominating Committee—J. I. Blanchfield, Brooklyn Union Gas Company, Brooklyn, New York.

State Representative Committee—J. M. Roberts, The Peoples Gas Light & Coke Company, Chicago, Ill.

Committee on Statistics—H. C. Davidson, Consolidated Gas Company of New York, New York, N. Y.

Natural Gas Representatives Committee—F. B. Flahive, Columbia Gas and Electric Company, New York, N. Y.

Uniform Classification of Accounts Committee—H. M. Brundage, Consolidated Gas Co. of New York, New York, N. Y.

Exhibit Committee — Sidney Curren, Public Service Electric & Gas Co., Newark, N. J.

Mechanical Office Equipment Committee —H. A. Ehrmann, Midland United Company, Chicago, Illinois.

Insurance Committee—T. H. Prendergast, Long Island Lighting Company, New York, N. Y.

Customer Accounting Committee—E. N. Keller, Philadelphia Electric Company, Philadelphia, Pa.

Customer Relations Committee—R. P. Stacy, Connecticut Light & Power Co., Hartford, Conn.

Office Management Committee—J. O. Hopwood, Philadelphia Electric Company, Philadelphia, Pa.

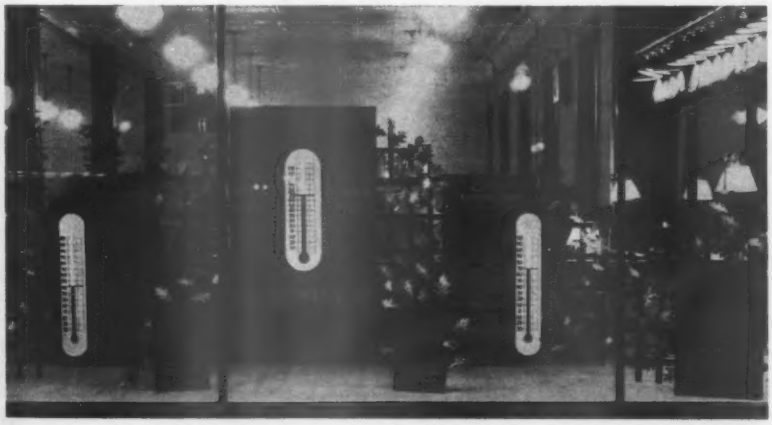
General Accounting Committee—D. H. Mitchell, Northern Indiana Public Service Co., Hammond, Ind.

Publicity Committee—J. M. Roberts, The Peoples Gas Light & Coke Co., Chicago, Ill.

Mr. Blanchfield was selected to receive and consider problems on accounting subjects which may be brought up during the year under dinner and luncheon meeting discussions, similar to those that were arranged at the Spring Conference last year under the caption of "what would you do?"

There will be no Spring Conference in Chicago this year. Topics of importance and interest to the Accounting Section members will be incorporated in the program plans of the annual A. G. A. Convention.

Effective Window Display



SHOWN here is a picture of a window display installed by the Albuquerque Gas and Electric Company, Albuquerque, New Mexico. This window is particularly interesting because there is no merchandise displayed and yet the display was highly successful.

The thermometers capitalize an important sales point in a climate where the daily range of temperature is very great.

Oklahoma Natural Aids Relief Fund

THE Oklahoma Natural Gas Corporation has offered its collection facilities at Okmulgee, Okla., to assist in raising the unemployment relief fund of that city. Domestic gas rates in Okmulgee were recently reduced to 45 cents per thousand cubic feet by the Oklahoma Natural in connection with a voluntary state wide reduction by that company. All customers of the Oklahoma Natural Gas Corporation in Okmulgee who indicate a willingness to subscribe to the plan will pay their gas bills on the old basis of 48 cents per thousand cubic feet, the difference between that figure and the present 45-cent rate to be turned over by the Oklahoma Natural Gas Corporation to the unemployment relief committee in Okmulgee.

Pensacola Has Natural Gas

CEREMONIES marking the turning on of natural gas by the Florida Public Utilities Co., into the first section of Pensacola, Florida, to receive it were held on November 15, Mayor H. Clay Armstrong turning the valve in the first regulator to be placed in service.

About 1,500 customers were in the first district, and a crew of 30 men immediately began the conversion of their appliances, about four thousand in this district, a task which was completed within a week, when the remainder of the city was given the new fuel.

A large natural gas torch was lighted at dusk at the governor station, in order to signalize the event.

Move Headquarters to Frederick, Okla.

Frederick, Okla., has become the headquarters for a district including twelve towns in southwestern Oklahoma, which are served with natural gas by the Community Natural Gas Company and the Lone Star Gas Company. Vernon, Texas, formerly had division headquarters offices.

C. C. Moore, manager of the Frederick branch of the Community Natural Gas Company, has been appointed division manager by J. Y. Wheeler, Oklahoma superintendent of the two companies.

Manufacturers' Section

D. F. KAHN, Chairman C. W. BERGHORN, Secretary D. B. STOKES, Vice-Chairman ROBERT M. LEACH, Vice-Chairman

Manufacturers to Meet in Chicago February 18

A MEETING of manufacturer members of the American Gas Association will take place in Chicago, February 18, at the Palmer House, for the purpose of acting upon several important matters relating to the program of group activities that is now under way.

Among the subjects to be discussed are the following:

Exhibit of appliances at the 1932 Convention of the American Gas Association.

Standards of Practice.

Cross Licensing of Patents.

This special session will be called to order at 10 A.M. by Chairman Kahn and will be devoted to a discussion of the program outlined above. The afternoon session will be given over to divisional meetings concerned with a discussion of problems peculiar to the various groups.

All manufacturing members are urgently requested to attend this meeting.

New Members

FOLLOWING are Manufacturer Company members recently enrolled in the A. G. A. Membership:

Harry C. Weiskittel Company, Inc., delegate, Harry C. Weiskittel, Pres., 4001 Philadelphia Road, Baltimore, Md.; ranges.

Tirrill Gas Machine Corp., Miss Mona Wallace, Mgr., 50 Church St., New York, N. Y.; gas machines.

Summit Foundry Company, Geo. H. Gillette, Treas. and Gen. Mgr., Middle St., Geneva, N. Y.; ranges.

Detroit Seamless Steel Tubes Co., C. H. Hobbs, Pres., West Warren and Wyoming Ave., Detroit, Mich.; house heating equipment.

Manufacturers to Exhibit at Cleveland Exposition

PROMINENT manufacturers of gas-fired house heating equipment, who are members of the American Gas Association, have reserved space in the gas-burning section of the Second International Heating & Ventilating Exposition, to be held in the Public Auditorium in Cleveland, O., January 25-29, inclusive. Tickets of admission may be secured on application to the American Gas Association.

First Use of Gas Described

THE following item sent in by Robert J. Taylor of the Newburgh Accounting Department was copied by him from an old magazine, *Gleason's Pictorial Drawing Room Companion,* of July 2, 1853:

"In the year 1792 Mr. Murdock made use of gas in lighting his house and office at Redruth, in Cornwall, England, where he then resided. The mines at which he worked being distant some miles from his house, he was in the constant practice of filling a bladder with coal-gas, in the neck of which he fixed a metallic tube, with a small orifice, through which the gas issued; this being ignited served as a lantern, to light his way for a considerable distance he had nightly to travel. This mode of illumination being then generally unknown, it was thought by the common people, that magical art alone could produce such an effect, and the discoverer actually ran some risk of personal inconvenience from the prejudices of his narrow-minded neighbors."

According to a very interesting book, *The Romance of the Gas Industry,* William Murdock, "father of the gas industry," was construction and erection engineer for James Watt, the inventor of the steam engine, and the regular work in this connection prevented Mr. Murdock from perfecting his idea. However, he was the first to use gas lighting in his home and in 1802 gave an exhibition of the new light at Soho; in 1804 built a gas works and lighted a cotton mill at Manchester with 900 burners; and in 1808 was awarded the Count Rumford Gold Medal by the Society of London for a paper describing this installation.

Lone Star Gas Company Takes Place in Dallas Skyline

AFTER fifty-seven years in rented quarters, the Lone Star Gas Company has built a home of its own in Dallas, Texas. For many years the company has been at work polishing up the skyline of Dallas by maintaining a complete natural gas service, but had never itself been a part of that skyline.

New home of Lone Star Gas Co. Dallas, Texas

The growth of the natural gas industry in the United States, and especially in Dallas, is symbolized by this building. The industry, because of its ultra-modern application of heat to human needs, has had a rapid but substantial growth in the last few years, and during this growth the center of production of natural gas has moved from West Virginia to the Southwest. Dallas, consequently, has become one of the capitals of the industry. It symbolizes, also, years of effort by gas officials, headed by Henry C. Morris, president and general manager of the Dallas Gas Company, first to give Dallas a perfect fuel service and now to present the city with one of the finest gas buildings in the South. The building is a high point in the steady upward swing of one of the city's great industries and a monument to the men who have captained this industry.

Hartford Gas Co. Captures First Place in Advertising Contest

(Continued from page 23)

ness manager for the last two years.

Entries for the Gas Age advertising award contest are invited each month from all gas companies in the United States and Canada. The large number and high quality of the exhibits submitted during the six months since the contest was started indicate keen interest on the part of gas company advertising men. A framed certificate, signed by the three judges, is presented each month to the gas company man responsible for the winning advertisement.

The winning advertisement and one or two receiving honorable mention are reproduced in *Gas Age-Record,* constituting a valuable file of outstanding utility advertising. The cooperation of all gas companies, both operating and holding organizations, is asked to insure that *Gas Age-Record* receives as many excellent entries as possible. By this means can be presented each month a cross-section of the best gas advertising, thus promoting advertising technique in the entire industry.

Honorable mention last month went to J. C. Barnes, director of advertising, New Orleans Public Service Inc., New Orleans, La. Mr. Barnes received the *Gas Age-Record* advertising award in October, 1931, and has entered samples of his work each month as evidence of his continued interest.

The three judges in the contest are: Henry Obermeyer, assistant to the vice-president in charge of commercial relations, Consolidated Gas Company of New York; Frederick C. Kendall, editor of *Advertising & Selling;* and Laurance B. Siegfried, editor of *The American Printer.*

A. G. A. Plan to Improve Customer Relations

(Continued from page 4)

enthusiastic cooperation from employees, contains a series of articles designed for group discussion and incorporates scores of suggestions for getting the most out of both the initial and follow-up programs.

For companies with a minimum of five employees now or in the future to be enrolled in the course, the cost figure remains the same as before—$15 for each employee enrolled. For this sum there are furnished six text units for each employee enrolled, a manual for the group leader and the continuation program — the new booklet—for each group. This is sufficient material to make possible an unbroken training period, except for the summer vacation season, of eighteen months.

Figuring an average of one meeting a month, which is the accepted practice, the cost of the entire training program extending over a period of eighteen months, is less than 83 cents per month per employee enrolled.

A. G. A. President Sees Improvement During 1932

(Continued from page 3)

non-utility purposes including manufacture of carbon black and consumed in oil and gas field operations apparently declined some 28 per cent, with the result that the entire consumption of natural gas for all purposes during 1931 is expected to run about 20 per cent under the corresponding figure for 1930.

The progress of the industry, which has again demonstrated its stability and essentiality in a difficult year, has depended upon its organized programs of research and salesmanship, according to Alexander Forward, managing director of the Association.

Before the Soviets conceived a five-year plan, the American Gas Association, in 1926, adopted a five-year program of Association activities, prepared by a committee of executives headed by George B. Cortelyou, president of the Consolidated Gas Company of New York, and has adhered consistently to this program, and the Association has just entered upon a revised plan of activities for the second five-year period.

More than $300,000,000 have been invested during 1931 in the construction of long-distance natural gas pipe lines, said Mr. Forward, and this expenditure, largely for pipe, averted a much greater loss in the iron and steel industries.

Following are some of the major projects completed or in progress during 1931:

The Texas-Chicago pipe line of the Cities Service, Middle West Utilities, Standard Oil of New Jersey and Texas Corporation group, extending 960 miles from the Texas Panhandle to the city limits of Chicago, completed September 1 at a cost of $75,000,000.

The Texas-Indiana pipe line of the Columbia Gas and Electric and Missouri Kansas Pipe Line Companies, extending 857 miles from the Texas Panhandle to Muncie, Ind., completed September 1 at a cost of nearly $40,000,000.

The Kentucky - Pennsylvania pipe line of the Columbia Gas and Electric and the Standard Oil Company of New Jersey, extending nearly 500 miles via West Virginia, Virginia and Maryland, completed November 15 at a cost of about $15,000,000.

The 219-mile Northern Natural Gas pipe line owned by the United Light and Power, North American Light and Power and Lone Star Gas companies, running from Kansas to Mason City, Iowa, and with spurs to Sioux City, Iowa, and Omaha, Neb., built at a cost of $30,000,000 including collecting lines and a connecting trunk to the Texas Panhandle. Plans call for extending this system to Minneapolis and St. Paul from Mason City, into South Dakota from Sioux City and elsewhere.

Several hundred miles of interconnecting gas lines built by the United Gas Corporation of the Electric Bond and Share group, to link up merged properties and extend service into new areas.

Local interest pipe lines in many States, such as the Tioga (Pa.)-Syracuse (N. Y.) pipe line to be completed soon, the Syracuse-Oswego pipe line, Montana lines interconnecting American Power and Light gas properties, the El Paso-Arizona line under contract for purchase by the Engineers Public Service Corporation and many others.

Oklahoma Utilities Association

THE fourteenth annual convention of the Oklahoma Utilities Association will be held March 8 and 9, at Tulsa, Okla. This convention will embrace all branches of the public utility industry in Oklahoma including gas, electric, telephone and electric railway utilities. The precedent of former years will be followed in the selection of speakers of national prominence.

Monthly Summary of Gas Company Statistics

FOR MONTH OF OCTOBER, 1931

Issued December, 1931, by the Statistical Department of the American Gas Association
420 Lexington Avenue, New York, N. Y.

PAUL RYAN, Statistician

REVENUES of utility concerns engaged in the distribution of manufactured and natural gas aggregated $537,306,395 during the first ten months of 1931, according to reports from companies serving some 13,656,740 customers and comprising approximately 90 per cent of the utility distribution of manufactured and natural gas.

The manufactured gas companies reported revenues of $314,191,940 for the ten-month period, representing a decrease of 2.3 per cent from the $321,654,799 reported by these same concerns for the corresponding period of 1930. The revenues of the natural gas utilities reporting for the ten-month period totaled $223,114,455, a drop of 6.9 per cent from the same interval of 1930.

For the ten months ending with October sales of the manufactured gas companies aggregated 292,992,851,000 cu.ft., representing a decline of 2.3 per cent from 1930.

Sales of natural gas reported for the same ten-month interval totaled 549,985,192,000 cu.ft., as compared with 605,192,164,000 cu.ft. during the initial ten months of 1930, a loss of 9 per cent.

In New England manufactured gas sales for the ten-month period were up 1.2 per cent, the result in large part of a gain of some 20 per cent in sales of gas for house heating purposes during the period. In the Middle Atlantic states, comprising New Jersey, New York and Pennsylvania, sales for the first ten months of 1931 totaled 120,721,966,000 cu.ft., or substantially the same figure reported for the corresponding period of the preceding year. In the East North Central states, embracing Illinois, Indiana, Michigan, Ohio and Wisconsin, manufactured gas sales were down 7 per cent for the ten-month period, the result in large part of a drop of 15 per cent in sales of gas for industrial-commercial uses.

COMPARATIVE STATISTICS OF 166 MANUFACTURED GAS COMPANIES FOR THE MONTH OF OCTOBER, 1931

	Month of October			*Ten Months Ending October 31*		
	1931	*1930*	*Per cent Increase*	*1931*	*1930*	*Per cent Increase*
Customers	9,091,936	9,125,768	— 0.3		*See October*	
Gas Sales (MCF)	28,531,157	29,922,086	— 4.7	292,992,851	299,717,480	— 2.3
Revenue (Dollars)	31,080,700	32,413,973	— 4.1	314,191,940	321,654,799	— 2.3
Gas Produced and Purchased (MCF)						
Gas Produced						
(a) Water Gas	13,789,771	15,795,319	—12.7	142,616,848	149,140,808	— 4.4
(b) Retort Coal Gas	2,624,201	2,833,534	— 7.4	26,176,924	26,552,404	— 1.4
(c) Oil Gas	566,287	609,892	— 7.2	6,077,905	6,527,995	— 6.9
(d) Coke Oven Gas	4,485,610	4,196,546	6.9	43,586,358	40,083,277	8.7
(e) Reformed Oil Still Gas	408,881	284,045	43.9	3,659,618	1,626,795	125.0
(f) Total Gas Produced	21,874,750	23,719,336	— 7.8	222,117,653	223,931,279	— 0.8
Gas Purchased						
(a) Coke Oven Gas	8,553,353	9,730,367	—12.1	87,437,425	94,617,598	— 7.6
(b) Oil Still and Natural Gas	1,738,237	240,659	—	5,283,947	2,688,839	—
(c) Total Gas Purchased	10,291,590	9,971,026	3.2	92,721,372	97,306,437	— 4.7
Total Gas Produced and Purchased	32,166,340	33,690,362	— 4.5	314,839,025	321,237,716	— 2.0

COMPARATIVE STATISTICS OF 159 NATURAL GAS COMPANIES FOR THE MONTH OF OCTOBER, 1931

Customers						
Domestic (Including House Heating)	4,344,852	4,351,603	— 0.2			
Commercial	197,521	192,048	2.8			
Industrial	15,329	16,144	— 5.0		*See October*	
Main Line Industrial	5,404	4,524	19.5			
Miscellaneous	1,698	2,627	—			
Total	4,564,804	4,566,946	0.0			
Gas Sales (MCF)						
Domestic (Including House Heating)	14,391,447	15,740,185	— 8.6	220,595,795	226,773,628	— 2.7
Commercial	2,008,417	2,176,048	— 7.7	31,410,793	30,041,184	4.6
Industrial	18,180,871	18,722,481	— 2.9	166,478,393	189,842,280	—12.3
Main Line Industrial	12,197,574	15,537,155	—21.5	125,702,475	151,676,221	—17.1
Miscellaneous	540,292	469,845	—	5,797,736	6,858,851	—
Total	47,318,601	52,645,714	—10.1	549,985,192	605,192,164	— 9.1
Revenue (Dollars)						
Domestic (Including House Heating)	10,901,119	11,681,206	— 6.7	153,108,675	156,976,377	— 2.5
Commercial	1,080,194	1,174,207	— 8.0	15,830,135	15,787,773	0.3
Industrial	3,586,358	4,368,059	—17.9	37,380,470	45,940,874	—18.6
Main Line Industrial	1,443,730	1,875,874	—23.0	15,990,750	19,386,921	—17.5
Miscellaneous	64,291	94,149	—	804,425	1,479,354	—
Total	17,075,692	19,193,495	—11.0	223,114,455	239,571,299	— 6.9

Associations Affiliated with A. G. A.

Canadian Gas Association
Pres.—Hugh McNair, Winnipeg Electric Co., Winnipeg, Man.
Sec.-Tr.—G. W. Allen, 21 Astley Avenue, Toronto.

Empire State Gas and Electric Association
Pres.—Alfred H. Schoellkopf, Niagara Hudson Power Corp., Buffalo, N. Y.
Sec.—F. C. Weber, The Brooklyn Union Gas Co., Brooklyn, N. Y.

Illinois Gas Association
Pres.—H. A. Kleinman, Peoples Power Co., Moline, Ill.
Sec.-Tr.—George Schwaner, 617 Public Service Bldg., Springfield, Ill.

Indiana Gas Association
Pres.—F. X. Mettenet, Indiana Electric Co., Indianapolis, Ind.
Sec.-Tr.—P. A. McLeod, Northern Indiana Power Co., Huntington, Ind.

Michigan Gas Association
Pres.—J. E. Spindle, Grand Rapids Gas Light Co., Grand Rapids, Mich.
Sec.-Tr.—A. G. Schroeder, Grand Rapids Gas Light Co., Grand Rapids, Mich.

Maryland Utilities Association
Pres.—Adrian Hughes, Jr., Baltimore, Md.
Sec.—D. E. Kinnear, 803 Court Square Bldg., Baltimore, Md.

Mid-West Gas Association
Pres.—John K. Swanson, Minneapolis Gas Light Co., Minneapolis, Minn.
Sec.-Tr.—Roy B. Searing, Sioux City Gas & Electric Co., Sioux City, Iowa.

Missouri Association of Public Utilities
Pres.—A. E. Bettis, Kansas City Power and Light Co., Kansas City, Mo.
Sec.-Tr.—F. D. Beardslee, 315 N. 12th St., St. Louis, Mo.
Asst. Sec.—Jesse Blythe, 103 West High St., Jefferson City, Mo.

New England Gas Association
Pres.—M. B. Webber, Arlington Gas Light Co., Arlington, Mass.
Exec. Sec.—C. D. Williams, 41 Mount Vernon St., Boston, Mass.
Chairman Operating Div.—F. M. Goodwin, Boston Consolidated Gas Co., Boston, Mass.
Sec. Operating Div.—P. R. Buchanan, Hartford Gas Company, Hartford, Conn.
Chairman Sales Div.—J. J. McKearin, Lowell Gas Light Co., Lowell, Mass.
Sec.-Tr. Sales Div.—Robert D. Stuart, Jr., Fall River Gas Works Co., Fall River, Mass.
Chairman Industrial Div.—Chas. H. O'Donnell, Boston Consolidated Gas Co., Boston, Mass.
Sec.-Tr. Industrial Div.—Phillip A. Nelles, Jr., C. H. Tenney Co., Boston, Mass.
Chairman Acctg. Div.—C. N. Alexander, C. H. Tenney & Co., Boston, Mass.
Sec.-Tr. Acctg. Div.—Otto Price, Boston, Mass.
Chairman Manufacturer Div.—A. M. Slattery, The Hoffman Heater Co., Boston, Mass.
Sec.-Tr. Manufacturers Div.—J. H. McPherson, Clow Gasteam Heating Co., Boston, Mass.

New Jersey Gas Association
Pres.—Louis Stoecker, Public Service Electric & Gas Co., Newark, N. J.
Sec.-Tr.—H. E. Cliff, Public Service Electric & Gas Co., Newark, N. J.

Ohio Gas and Oil Men's Association
Pres.—L. K. Langdon, Union Gas & Electric Co., Cincinnati, Ohio.
Sec.-Tr.—Wm. H. Thompson, 811 First National Bank Bldg., Columbus, Ohio.

Oklahoma Utilities Association
Pres.—S. I. McElhoes, Southwestern Light & Power Co., Oklahoma City, Okla.
Mgr.—E. F. McKay, 1020 Petroleum Bldg., Oklahoma City, Okla.

Pacific Coast Gas Association
Pres.—James L. Stone, Spokane Gas & Fuel Co., Spokane, Wash.
Mang. Dir.—Clifford Johnstone, 447 Sutter St., San Francisco, Calif.

Pennsylvania Gas Association
Pres.—H. Smyser Bair, Pennsylvania Gas & Electric Co., York, Pa.
Sec.-Tr.—Frank W. Lesley, Pennsylvania Gas & Electric Co., York, Pa.

Pennsylvania Natural Gas Men's Association
Pres.—E. S. Templeton, Greenville, Pa.
Sec.-Tr.—B. H. Smyers, Jr., 435 Sixth Ave., Pittsburgh, Pa.

Southern Gas Association
Pres.—Edward N. Avegno, New Orleans Public Service, Inc., New Orleans, La.
Sec.—J. M. Stone, Alabama Utilities Corp., Watts Bldg., Birmingham, Ala.

Southwestern Public Service Association
Pres.—Knox Lee, Southwestern Gas & Electric Co., Marshall, Texas.
Sec.—E. N. Willis, 530 13th Street, SE., Brownsville, Texas.

The Public Utilities Association of Virginia
Pres.—T. Justin Moore, Va. Elec. & Power Co., Richmond, Va.

Wisconsin Utilities Association
Pres.—A. J. Goedjen, Wisconsin Public Service Corp., Green Bay, Wis.
Exec. Sec.—J. N. Cadby, 135 West Wells St., Milwaukee, Wis.

Fourteenth Annual Convention of the American Gas Association
Atlantic City, N. J. - - - October 10-14, 1932

Personnel Service

SERVICES OFFERED

Gas range **salesman** with broad experience and wide acquaintance among utility, department store and furniture trade in the middle western states desires new connection. Have a clean record and can furnish references. Prefer middle western territory, but will go anywhere. **476.**

A chemical engineer (research) B.S. chemical engineering with five years' experience in the gas industry, including two years' research work, desires a position in a laboratory or plant as a **chemist** or **chemical engineer** with an opportunity at research work. Salary arranged. **477.**

Graduate **mechanical engineer** thoroughly experienced in the sale, design and service of domestic heating plants of all kinds desires sales or engineering position in house heating division of gas company. **480.**

Engineer, eight years' broad experience in public utility work, both gas and electric covering management, valuation, cost analysis, construction estimates, operating improvements, marketing studies, rates, etc. Age 38. Married. **485.**

Efficiency engineer, sales minded, twelve years as executive in field work and supervision of accounting and sales; six as treasurer. Thoroughly conversant with utility accounting system and public service commission regulations. Capable of undertaking standardization of forms and printing. Now employed in a responsible position by one of the most highly respected utility and engineering corporations. (42) Married. **486.**

Gas engineer (B.S.) offers the following unique experiences: **(1)** design and construction engineering for three complete plants from ground up; **(2)** design of definite detailed plants for taking care of present and future low-pressure areas in high- and low-pressure distribution systems; **(3)** education and training of employees for the starting up and operation of the largest water gas plants in Middle West. Active and aggressive. **488.**

Competent **gas engineer** wants position as joint plant and distribution superintendent. Understands both coal and water gas manufacture, also thoroughly understands the distribution of gas. Would consider managing a property of from 1000 to 4000 meters; can produce results. **490.**

Salesman, or **sales representative,** with seventeen years' experience in gas appliance field. Married. Would consider out-of-town affiliation with public utility or as manufacturer's representative. **491.**

Display manager wishes position with a public utility, or manufacturer or distributor of household appliances, who can use a man with brains and original ideas. One who has had thorough art training, fine experience, and has distinct ability to advertise and attract attention. Exceptionally fine recommendation from previous employer, a large Public Utility Corporation. No objection to location. **492.**

Do you need a natural gas or **sales executive?** Graduate engineer with eighteen years' experience which includes all phases of manufactured gas, natural gas and electric utility operations, nearly thirteen years in charge of sales activities, three years as executive assistant, will be available soon for good opportunity. **493.**

Industrial engineer with ten years' successful experience selling gas to industry and two years as Manager of Industrial Gas Sales for a large eastern gas company desires a new connection, preferably in a capacity which will combine actual selling with supervisory work. Wide experience in house heating including unit heaters. **494.**

Sales representative with successful record and wide experience, both manufacturing and selling, in the range industry, desires affiliation with progressive manufacturer, in executive capacity or as Sales Representative in Eastern territory on commission basis. **495.**

SERVICES OFFERED

Home service director now employed is seeking a change of position with either all gas or combination company, where Home Service activities can be conducted, or to organize a Home Service Department. Technically trained with wide practical experience. **496.**

Executive, with twenty-five years' experience in the gas and electric business and capable of taking full charge of a gas or gas and electric property in a city of from 100,000 to 200,000 population. Experience covers manufacture, distribution, merchandising and public relations. **497.**

Connection desired as sales manager, division sales manager or **sales representative** with high grade gas range manufacturer. Exceptionally wide acquaintance among New England utilities and dealers; specialist with proven record of accomplishment in introducing and increasing the sale of insulated ranges with utilities in the East. **498.**

Salesman (39) eight years' experience selling domestic and heating appliances to consumer and trade in New York metropolitan district, formerly secretary-stenographer and assistant to sales executives, desires position inside or outside, or both, opportunity being primary to salary. Able to read architectural blue prints and write acceptable correspondence. **499.**

Manager-purchasing agent, with exceptional experience having directed and supervised group of three small companies serving eight cities and towns with high and low pressure, coal and water gas operations. Familiar with sales development, advertising and public relations. Can get results. Married. **500.**

Gas and electric **appliance salesman;** eight years' experience. Familiar with books and office work. Married and willing to travel anywhere. **501.**

Pipe fitter and **complaint man** with several years' experience in all kinds of appliances. Natural and manufactured gas. **502.**

Sales engineer (29) has specialized on control of manufactured, natural and producer gas in industrial processes. Assistant to sales manager. Experienced in effectively handling correspondence and sales office detail as well as actual sales and engineering. Will be particularly valuable to manufacturer of gas equipment, temperature control equipment, or utility. **503.**

Practical engineer with experience in design and construction of industrial furnaces. Can handle help and organize construction forces. Good correspondent and writer. Inside or outside work. Interview desired. New York City or vicinity. **504.**

Industrial sales engineer with **house heating** management experience covering sales, service and maintenance. Broad general and technical experience of eighteen years. Age 37. Married. Prefer New York City or vicinity. **505.**

House heating and domestic **sales** manager, (40), present position being eliminated due to economies. Have had twenty years of natural and manufactured gas experience. Am thoroughly capable of organizing and directing house heating and domestic sales organization, as well as property management. **506.**

Purchasing agent (35). Fourteen years' experience in purchasing all classes of construction, maintenance, merchandising materials and equipment for domestic and foreign gas, electric, ice, bus and street railway companies. Experienced in installation and supervision of stores systems. Excellent general business experience. **507.**

POSITIONS OPEN

Industrial gas sales engineer to conduct research on industrial gas applications and aggressively canvass for New Business. Location—New York State. Technical graduate preferred, with experience in Industrial Department of Gas Company. Age—preferably 30-35. State age, experience in detail and salary expected. **0224.**

Oil gas plant **foreman** with operation and maintenance experience with the Jones two shell set. **0230.**

Sales promotion: Leading manufacturer of a nationally known gas appliance wants energetic man for campaign and field sales promotion work. Should be experienced in sales training of retail men. Plenty of work for a man who is about thirty and naturally enthusiastic. Outline clearly and briefly, past experience, personal history and salary expected. **0232.**

Manager (for small property) with considerable ability along commercial lines to build up domestic and industrial business and well fitted from a public relations standpoint to maintain and improve the good public relations already existing. Must be an executive who can handle employees efficiently. **0233.**

MAY WE REMIND YOU?

First, that each advertiser in the *Services Offered* columns has provided additional information to support the necessarily concise abstract of experience and qualification identified by the key numbers. These confidential classification records are at your service to assist you in seeking the man you want.

In addition to those appearing in this issue we have carefully classified records of others in all branches of the industry which we are unable to display because of space limitations.

Second, that each advertiser in the *Positions Open* column condenses in the available space the major requirements for the vacancy. From the confidential classification records, a list of suitable individuals will also have been applied. Consequently advertisers receive many communications, and when preparing a "short list," or making a final selection, the letter of application constitutes the only spokesman for the individual out of a large number of qualified personnel.

Attention is invited to a few of the apparently minor, but actually very important, considerations often overlooked in applying for advertised vacancies. First are neatness, conciseness and accuracy; use of typewriter is essential; next is furnishing full details of all the information requested by the advertisement and another is that only advertisements in the current issue of the MONTHLY should be acknowledged.

Advisory Council

E. R. ACKER ..... Poughkeepsie, N. Y.
D. D. BARNUM ..... Boston, Mass.
H. E. BATES ..... Chicago, Ill.
J. M. BENNETT ..... Philadelphia, Pa.
J. I. BLANCHFIELD ..... Brooklyn, N. Y.
R. B. BROWN ..... Milwaukee, Wis.
J. J. BURNS ..... St. Louis, Mo.
D. W. CHAPMAN ..... Chicago, Ill.
C. M. COHN ..... Baltimore, Md.
J. L. CONOVER ..... Newark, N. J.
H. C. COOPER ..... Pittsburgh, Pa.
F. G. CURFMAN ..... New York, N. Y.
E. S. DICKEY ..... Baltimore, Md.
P. H. GADSDEN ..... Philadelphia, Pa.
E. FRANK GARDINER ..... Chicago, Ill.
R. G. GRISWOLD ..... New York, N. Y.
R. C. HOFFMAN, JR. ..... Chicago, Ill.
F. T. HULSWIT ..... New York, N. Y.
G. M. KARSHNER ..... Brooklyn, N. Y.
J. B. KLUMPP ..... Philadelphia, Pa.
C. C. KRAUSSE ..... Baltimore, Md.
J. P. LEINROTH ..... Newark, N. J.
A. B. MACBETH ..... Los Angeles, Cal.
F. C. MACKEY ..... Chicago, Ill.
D. M. MACKIE ..... Jackson, Mich.
T. N. MCCARTER ..... Newark, N. J.
S. W. MEALS ..... Pittsburgh, Pa.
H. C. MORRIS ..... Dallas, Texas
F. H. PATTERSON ..... Rochester, N. Y.
F. H. PAYNE ..... Erie, Pa.
B. V. PFEIFFER ..... Philadelphia, Pa.
EDWARD PORTER ..... Philadelphia, Pa.
C. R. PRICHARD ..... Lynn, Mass.
H. S. SCHUTT ..... Philadelphia, Pa.
H. LEIGH WHITELAW ..... New York, N. Y.
GEORGE E. WHITWELL ..... Philadelphia, Pa.

AMERICAN GAS ASSOCIATION, INC.

HEADQUARTERS, 420 LEXINGTON AVE., NEW YORK, N. Y.

Officers and Directors

President	R. W. GALLAGHER	Cleveland, Ohio
Vice-President	ARTHUR HEWITT	Toronto, Ontario
Vice-President	N. C. McGOWEN	Houston, Texas
Vice-President	HOWARD BRUCE	Baltimore, Md.
Treasurer	WILLIAM J. WELSH	Staten Island, N. Y.
Managing Director	ALEXANDER FORWARD	New York, N. Y.
Assistant to Managing Director	L. C. SMITH	New York, N. Y.
Assistant Manager	H. W. HARTMAN	New York, N. Y.
Secretary	K. R. BOYES	New York, N. Y.
Director, Publicity-Advg	KEITH CLEVENGER	New York, N. Y.
Departmental Vice-Pres.	T. J. STRICKLER	Kansas City, Mo.
Sectional Vice-Pres.	W. H. HODGE	Chicago, Ill.
Sectional Vice-Pres.	WM. A. DOERING	Boston, Mass.
Sectional Vice-Pres.	W. F. MILLER	Chicago, Ill.
Sectional Vice-Pres.	D. F. KAHN	Hamilton, Ohio
Sectional Vice-Pres.	I. K. PECK	Chicago, Ill.
Sectional Vice-Pres.	SAMUEL INSULL, Jr.	Chicago, Ill.

H. C. ABELL	New Orleans, La.	F. A. LEMKE	Kalamazoo, Mich.
WALTER C. BECKJORD	Boston, Mass.	FRED A. MILLER	Bradford, Pa.
J. D. CREVELING	New York, N. Y.	B. J. MULLANEY	Chicago, Ill.
J. S. DeHART, Jr.	Newark, N. J.	C. E. PAIGE	Brooklyn, N. Y.
HENRY L. DOHERTY	New York, N. Y.	A. E. PEIRCE	Chicago, Ill.
O. H. FOGG	New York, N. Y.	HERMAN RUSSELL	Rochester, N. Y.
F. C. FREEMAN	Providence, R. I.	ARTHUR STOCKSTROM	St. Louis, Mo.
SAMUEL INSULL, Jr.	Chicago, Ill.	F. S. WADE	Los Angeles, Calif.
CONRAD N. LAUER	Philadelphia, Pa.	T. R. WEYMOUTH	New York, N. Y.
		P. S. YOUNG	Newark, N. J.

Section and Department Officers

NATURAL GAS—Chairman	T. J. STRICKLER	Kansas City, Mo.
Vice-Chairman	L. K. LANGDON	Cincinnati, Ohio
Secretary	E. J. STEPHANY	Dallas, Texas
ACCOUNTING—Chairman	WM. A. DOERING	Boston, Mass.
Vice-Chairman	J. M. ROBERTS	Chicago, Ill.
Secretary	H. W. HARTMAN	New York, N. Y.
COMMERCIAL—Chairman	SAMUEL INSULL, Jr.	Chicago, Ill.
Vice-Chairman	WALTER C. BECKJORD	Boston, Mass.
Secretary	J. W. WEST, Jr.	New York, N. Y.
INDUSTRIAL GAS—Chairman	W. F. MILLER	Chicago, Ill.
Secretary	C. W. BERGHORN	New York, N. Y.
MANUFACTURERS'—Chairman	D. F. KAHN	Hamilton, Ohio
Vice-Chairman	D. B. STOKES	Burlington, N. J.
Vice-Chairman	ROBERT M. LEACH	Taunton, Mass.
Secretary	C. W. BERGHORN	New York, N. Y.
PUBLICITY AND ADVERTISING		
Chairman	WILLIAM H. HODGE	Chicago, Ill.
Vice-Chairman	HENRY OBERMEYER	New York, N. Y.
Secretary	ALLYN B. TUNIS	New York, N. Y.
TECHNICAL—Chairman	I. K. PECK	Chicago, Ill.
Vice-Chairman	J. A. PERRY	Philadelphia, Pa.
Secretary	H. W. HARTMAN	New York, N. Y.
Asst. Secretary	K. H. CREE	New York, N. Y.

PRINTED IN U. S. A.